UTILITIES ADVISORY COMMISSION
Regular Meeting
Wednesday, May 03, 2023
Council Chambers & Hybrid
6:00 PM

Remote Call In Location: 160 S Lakeside, Dr Piscataway NJ 08854
Pursuant to AB 361 Palo Alto City Council meetings will be held as "hybrid" meetings with the option to attend by teleconference/video conference or in person. To maximize public safety while still maintaining transparency and public access, members of the public can choose to participate from home or attend in person. Information on how the public may observe and participate in the meeting is located at the end of the agenda. Masks are strongly encouraged if attending in person. The meeting will be broadcast on Cable TV Channel 26, live on YouTube https://www.youtube.com/c/cityofpaloalto, and streamed to Midpen Media Center https://midpenmedia.org.

VIRTUAL PARTICIPATION **CLICK HERE TO JOIN** (https://cityofpaloalto.zoom.us/j/96691297246)
Meeting ID: 966 9129 7246 Phone: 1(669)900-6833

PUBLIC COMMENTS
Public comments will be accepted both in person and via Zoom for up to three minutes or an amount of time determined by the Chair. All requests to speak will be taken until 5 minutes after the staff's presentation. Written public comments can be submitted in advance to UACPublicMeetings@CityofPaloAlto.org and will be provided to the Council and available for inspection on the City's website. Please clearly indicate which agenda item you are referencing in your subject line.

PowerPoints, videos, or other media to be presented during public comment are accepted only by email to UACPublicMeetings@CityofPaloAlto.org at least 24 hours prior to the meeting. Once received, the Clerk will have them shared at public comment for the specified item. To uphold strong cybersecurity management practices, USB's or other physical electronic storage devices are not accepted.

TIME ESTIMATES
Listed times are estimates only and are subject to change at any time, including while the meeting is in progress. The Commission reserves the right to use more or less time on any item, to change the order of items and/or to continue items to another meeting. Particular items may be heard before or after the time estimated on the agenda. This may occur in order to best manage the time at a meeting or to adapt to the participation of the public.

CALL TO ORDER 6:00 pm - 6:05 pm

AGENDA CHANGES, ADDITIONS AND DELETIONS 6:05 pm - 6:10 pm
The Chair or Board majority may modify the agenda order to improve meeting management.

PUBLIC COMMENT 6:10 pm - 6:25 pm
Members of the public may speak to any item NOT on the agenda.

APPROVAL OF MINUTES 6:25 pm - 6:30 pm

Approval of the Minutes of the Utilities Advisory Commission Meeting Held on March 01, 2023

Approval of the Minutes of the Utilities Advisory Commission Meeting Held on April 12, 2023

UTILITIES DIRECTOR REPORT 6:30 pm - 6:45 pm

NEW BUSINESS 6:45 pm - 8:35 pm

1. Approval of UAC Chair and Vice Chair to Serve a Short Term of May 3, 2023 to March 31, 2024 (*ACTION 6:45 pm – 6:55pm*)

2. Approval of UAC Budget Subcommittee Members to Serve a Short Term of May 3, 2023 to March 31, 2024 (*ACTION 6:55 pm – 7:05 pm*)

3. Discussion and Presentation of Utilities Strategic Plan Implementation (*DISCUSSION 7:05 pm – 7:35 pm*)

4. Staff Recommendation That the Utilities Advisory Commission Recommend the City Council Adopt the Proposed Operating and Capital Budgets for the Utilities Department for Fiscal Year 2024 (*ACTION 7:35 pm – 8:35 pm*)

COMMISSIONER COMMENTS AND REPORTS FROM MEETINGS/EVENTS

FUTURE TOPICS FOR UPCOMMING MEETING - June 07, 2023

ADJOURNMENT

SUPPLEMENTAL INFORMATION
The materials below are provided for informational purposes, not for action or discussion during UAC Meetings (Govt. Code Section 54954.2(a)(3)).

INFORMATIONAL REPORTS

Utilities Quarterly Report Update for Q2 of FY 2023

Informational Update on Background and Options for California Oregon Transmission Project

12-Month Rolling Calendar

Public Letter(s) to the UAC

PUBLIC COMMENT INSTRUCTIONS

Members of the Public may provide public comments to teleconference meetings via email, teleconference, or by phone.

1. **Written public comments** may be submitted by email to UACPublicMeetings@cityofpaloalto.org.
2. **Spoken public comments using a computer** will be accepted through the teleconference meeting. To address the Council, click on the link below to access a Zoom-based meeting. Please read the following instructions carefully.
    - You may download the Zoom client or connect to the meeting in- browser. If using your browser, make sure you are using a current, up-to-date browser: Chrome 30 , Firefox 27 , Microsoft Edge 12 , Safari 7 . Certain functionality may be disabled in older browsers including Internet Explorer.
    - You may be asked to enter an email address and name. We request that you identify yourself by name as this will be visible online and will be used to notify you that it is your turn to speak.
    - When you wish to speak on an Agenda Item, click on "raise hand." The Clerk will activate and unmute speakers in turn. Speakers will be notified shortly before they are called to speak.
    - When called, please limit your remarks to the time limit allotted. A timer will be shown on the computer to help keep track of your comments.
3. **Spoken public comments using a smart phone** will be accepted through the teleconference meeting. To address the Council, download the Zoom application onto your phone from the Apple App Store or Google Play Store and enter the Meeting ID below. Please follow the instructions B-E above.
4. **Spoken public comments using a phone** use the telephone number listed below. When you wish to speak on an agenda item hit *9 on your phone so we know that you wish to speak. You will be asked to provide your first and last name before addressing the Council. You will be advised how long you have to speak. When called please limit your remarks to the agenda item and time limit allotted.

CLICK HERE TO JOIN **Meeting ID: 966 9129 7246** **Phone:1-669-900-6833**

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Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2303-1207

TITLE
Approval of the Minutes of the Utilities Advisory Commission Meeting Held on March 01, 2023

RECOMMENDATION
Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the March 01, 2023 meeting as submitted/amended.

Commissioner _____ seconded the motion.

ATTACHMENTS
Attachment A: 03-01-2023 DRAFT UAC Minutes

AUTHOR/TITLE:

Jenelle Kamian, Program Assistant I

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF MARCH 1, 2023 SPECIAL MEETING

CALL TO ORDER

Chair Segal called the meeting of the Utilities Advisory Commission (UAC) to order at 4:32 p.m.

Present: Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Metz, Scharff and Smith

Absent:

AGENDA REVIEW AND REVISIONS

None

ORAL COMMUNICATIONS

None

APPROVAL OF THE MINUTES

Chair Segal invited comments on the February 1, 2023 UAC draft meeting minutes.

Commissioner Forssell suggested changing the wording under Future Topics to read, "...simplifying the topic to not discuss what the process should be but simply have a quick report on how much undergrounding has happened in the last five years."

Vice Chair Johnston moved to approve the draft minutes of the February 1, 2023 meeting as amended.

Commissioner Metz seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Johnston and Commissioners Bowie, Forssell, Metz, Scharff, and Smith voting yes.

UNFINISHED BUSINESS

None

UTILITIES DIRECTOR REPORT

Dean Batchelor, Utilities Director, delivered the Director's Report.

Power Outages During Wind Storm: In Palo Alto, crews managed six power outages from the afternoon of February 21 through 3 a.m. on February 22 caused by last week's heavy winds. The outages were caused by downed trees or branches and affected approximately 4,200 customers. Utilities staff

provided continual communication via Twitter accounts, our outage management maps were updated and the website was live during this timeframe.

Water Supply Update: The City's water supplier, San Francisco Public Utilities Commission (SFPUC), projected a preliminary rate increase of 11.6% from the current wholesale water rate of $4.75/ccf. SFPUC will determine the final rate increase in May, which would be effective July 1, 2023. SFPUC provided an initial water supply estimate. Final numbers will be released in April. SFPUC is not making any changes to our reduction requests. SFPUC continues to monitor water supply conditions and State actions regarding its emergency drought declaration.

Hydroelectric Update: As of February 27, precipitation totals are about 16% and 50% above average for this time of year in Northern California and Central California, respectively. Snowpack levels are about 45% and 85% above average in Northern and Central California, respectively, so we should see some late runoffs. The City's hydro resources are projected to produce around 79% of the long-term average level of output this fiscal year and 96% of our long-term average level in FY 2024.

Full-Service Heat Pump Water Heater Pilot Program: Residents have been completing interest forms to participate or receive more information on the program's full-service installation once it fully launches. As of February 27, we have received almost 360 program sign-ups and completed five site assessments. A group of community volunteers coordinated by 350 Palo Alto recently began door-to-door canvassing to promote the program, so more sign-ups are expected. To drive further participation, the City is hiring a marketing consultant to work with staff, stakeholders, policymakers and community partners on an electrification marketing plan to launch later this year.

Home Water Reports Launch: The City recently launched WaterSmart, an online water management tool open to all City of Palo Alto Utilities (CPAU) customers. WaterSmart provides access to water use charts and recommendations for water efficiency to help residents and businesses save water and money. Starting in March, the City will send Home Water Reports containing information on a customer's water use and comparisons to similar-sized Palo Alto households. Water savings from those reports will be evaluated through efficiency studies.

E-Bike and EV Discount Campaigns: CPAU is proud to offer two new campaigns in March offering discounts on electric bicycles (e-bikes) and electric vehicles (EVs). The e-bike program is available from March 1-22 in partnership with Palo Alto Bicycles and includes a discount on select models and free lifetime tune-ups for e-bikes purchased during the campaign. The EV discount campaign is available from March 6-31.

Upcoming Events: Details and registration at cityofpaloalto.org/workshops

- March 5: CPAU staff will host a booth at the Palo Alto Art Center Family Day event to talk with residents about the heat pump water heater offering and other programs.
- March 8 and 28: "E-Bike 101" webinars.
- March 15: CPAU hosts an "EVs for Backup Power" webinar. Ride and Drive Clean will talk about resiliency and bidirectional charging.
- March 16: In-person community engagement sessions to talk with residents at Palo Alto Gardens about installing EV chargers at their property. This project is in partnership with MidPeninsula Housing Authority.
- July 15: Open House at MSC from 9:30 to 2:30 is being planned.

Chair Segal inquired if the trees that caused power outages were in areas where we planned to or had done tree maintenance and if we need to increase tree maintenance. Mr. Batchelor replied that two outages were in areas where trees were trimmed last year, so there was clearance but the fallen trees took out some of the secondary portions. The large tree that broke the pole was a private tree, not on the list to be trimmed. It fell and snapped the primary and secondary wires.

In response to Commissioner Bowie's query if the hydro projections were the most recent, Mr. Batchelor responded that the numbers corresponded to the hydro report.

NEW BUSINESS

ITEM 1: ACTION: Staff Recommend the Utilities Advisory Commission Recommend the Finance Committee Recommend that the City Council Adopt a Resolution Approving the FY 2024 Wastewater Collection Utility Financial Plan Including Reserve Transfers and Increasing Wastewater Rates by Amending Rate Schedules S-1 (Residential Wastewater Collection and Disposal), S-2 (Commercial Wastewater Collection and Disposal), S-6 (Restaurant Wastewater Collection and Disposal) and S-7 (Commercial Wastewater Collection and Disposal – Industrial Discharger)

Commissioner Forssell asked which commissioners were on the Budget Subcommittee this year or if there was one. Commissioner Smith stated that we do not have a Budget Subcommittee, which was one of his concerns. Dean Batchelor, Utilities Director, replied that a Budget Subcommittee was set up. Staff did not have time to prepare this report for the committee because of changes in gas rates and electric.

Jonathan Abendschein, Assistant Director, Utilities Resource Management, delivered a slide presentation on Overview for Utility Financial Projections. This winter's energy prices were the highest on record. It cost Palo Alto five times as much to buy gas this January as it did last January, which was reflected in the February utility bills. This was due to the very cold weather, low amounts of gas in storage and constraints in supply across the west. The Governor has called for a federal investigation of these price spikes and the Mayor sent a letter. Investigations by regulatory agencies, the California Public Utilities Commission (CPUC) and California Independent System Operator (CAISO) are underway. Staff is looking at winter hedging program options to avoid similar price spikes.

Gas and electric market prices have started to decline. March gas bills are expected to be less than half of February but significantly higher than last year. The commodity price for March is down 40% from February, which will reflect on April gas bills. This month, Council is discussing rebates to provide relief to customers but we do not know the amount or timing. Council asked staff to send a proposal for rebates equal to 20% of the highest winter gas bills. The City is arranging six- to eight-month payment plans and free consultations with the City's Home Efficiency Advisor. For income-qualified customers, we offer a rate assistance program and free energy efficiency improvements.

Staff proposed significant electric and gas rate increases. Utility bills will decline over the next few months but increase in July, although not to the levels of winter 2022/2023.

There are various factors driving the proposed July rate increases. Energy prices are expected to remain elevated. Gas and electric transmission costs are rising as are environmental charges. Rates were kept low during the pandemic. Our utilities revenues are currently below cost. The extreme winter gas prices were not passed through completely to customers and the difference was absorbed from reserves. Our electricity, gas and wastewater reserve levels will be at or below minimum by the end of FY 2023.

The drought has continued. In April, we will know the impacts on electric and water utilities. We have not reached average annual precipitation in the Northern Sierras where most of the state's water and most of our hydropower comes from. The biggest reservoirs in the state are below historical average. Drought regulations and environmental regulations govern flows and allocation of water between water users and power users. An increase in capital investment is needed due to aging wastewater and electric system infrastructure. The treatment plant needs to be upgraded. We need to increase our rate of investment in the sewer system. We need to modernize the grid to accommodate community electrification. Construction inflation and other types of inflation continue to affect utility costs, including increases in general expenses, salary and benefit costs.

A slide was shown depicting the FY 2024 proposed change in residential median bills. Our electric utility's revenues now match costs. With the improved hydro situation and energy costs down, overall rates were not expected to increase on July 1. Decreasing the Hydroelectric Rate Adjuster (HRA) by 50% and increasing the base rate by 14% will match long-term costs to long-term revenues and short-term costs to short-term revenues. If the hydroelectric situation continues to improve, the HRA could further decrease and customers may see a decrease in their bills in FY 2025 or earlier.

An 8% rate increase on the overall gas bill was proposed to match distribution revenues to distribution costs. A 9% wastewater increase was proposed for upgrades to the treatment plant and sewer system investments. A 7% increase in the water utility was primarily driven by increases in the SFPUC water rate. There is no change in refuse this year, although increases were expected to start in the next few years. There was a 5% CPI increase in storm drain fees because of higher inflation. The overall change in the median residential bill would be about 5%. With the gas price decreasing from FY 2023 to FY 2024 and if the HRA is decreased, the overall change in the median residential bill would be approximately 3%. The goal was to minimize rate increases as much as possible by ongoing cost containment efforts.

Lisa Bilir, Sr. Resources Planner, provided a presentation on wastewater. A 9% overall rate increase was recommended in preparation for upcoming cost increases in the treatment plant and to accelerate the rate of main replacement. Many treatment plant facilities have been in service for over 40 years and certain components need to be replaced to continue to provide service safely and within regulatory requirements. In the last few years, the average rate of main replacement was 1 mile/year and this proposal increases it to 2.5 miles/year by 2026 to replace the remaining mains within the 100-year life expectancy as recommended by the UAC and Finance Committee. Mains with structural defects are prioritized because if a section collapses it could cause sewer overflows or sinkholes.

A graph was displayed on Wastewater Cost and Revenue Projections. A 9% overall rate increase was recommended. A transfer of $3.178M from the CIP Reserve to the Operations Reserve was recommended for funding of infrastructure needs in FY 2023, as well as transferring the remaining $342,000 funds from the Rate Stabilization Reserve to the Operations Reserve in FY 2023.

Commissioner Smith was concerned about drawing down our reserve to zero. Regarding Page 5 of the report regarding wastewater collection operations, he asked if the CIP cost increase of 3.7% annually included the 1.4% increase in operations cost or if it was 3.7% plus 1.4%. He suggested a 10% increase to match revenues to cost. Ms. Bilir explained that the sewer replacement had to move from 2024 into 2023 due to operational reasons. The CIP Reserve would go to zero temporarily in 2023 to accommodate moving the main replacement program from FY 2024 to FY 2023 but the plan brings the CIP Reserve within the guideline range during the five-year forecast period. The Operations Reserve was projected to remain within the guideline range of $3M and will not go below minimum.

Silvia Santos, Engineering Manager, Water Gas Wastewater, addressed Commissioner Smith's query as to the reason for moving main replacement to FY 2023. The FY 2023 project was planned at a rate of 1 mile/year. The 2024 project had to move to 2023 to replace sewer mains on El Camino Real because our work has to coordinate with the Caltrans repaving project on El Camino. The bids came in 107% higher than the last sewer project, which is a couple million dollars more than our engineering estimate.

Commissioner Smith remarked that if construction costs are increasing from 9.9% to 11.3% per year, we are not asking for enough money because we are bringing in less revenue than we need on a yearly basis. Mr. Batchelor explained that it cost an additional $2M because the mains were deep, about 15 to 17 feet at El Camino. When the engineering estimate was done, we did not realize how deep the mains were. Mains are usually found between 5 to 8 feet.

Commissioner Forssell asked if the 6.2% and 3.7% cost increases should be added to total 9.9% or a weighted average of cost increases to determine the actual cost increase. Ms. Bilir responded that they are not additive because they are different components of costs going up at different rates (6.2%, 3.7% and 1.4%). It would be within that range, not as much as 9% or 11%. Commissioner Smith expressed his concern that we are not charging enough.

Commissioner Smith requested the calculation be verified on Page 11 of 15 regarding the rate increase resulting in residential rates to be 26% lower than the current average neighboring community.

Ms. Bilir confirmed Commissioner Smith's understanding that the $3.2M transfer was primarily to bring FY 2024 into FY 2023 and the replenishment of the CIP Reserves between 2026 and beyond pays for the acceleration of wastewater pipe replacement to within 100 years. If the CIP Reserve goes down to zero, Commissioner Smith advised a 10% increase because money needs to accumulate before FY 2026.

Regarding the alternative scenarios on Slide 7 for delaying implementation of the 2½ mile/year replacement, Vice Chair Johnston asked how to predict which pipes were most in need of replacement. Ms. Santos replied that the best way to evaluate conditions is by CCTV. Operations was asked to include a CCTV inspection when they do maintenance to capture the image and rate the defects to help prioritize the replacement program. Vice Chair Johnston stated that the replacement timeframe was beyond the projected useful life of the pipes. Unless there was a reliable way of assessing the condition of those pipes, he was reluctant to push replacement out any further and risk a catastrophic failure. He preferred starting main replacement at a rate of 2½ per year in FY 2026 or before.

Commissioner Scharff supported Commissioner Johnston's comments. He preferred staff's recommendation of getting it done in 2026. Ms. Bilir remarked that the financial plan was written using staff's recommendation. If the UAC and Finance Committee recommended an alternative, staff would rewrite the financial plan and update the tables and figures.

In response to Commissioner Scharff's understanding that revenues would match costs and we would have the right reserve amounts over a five-year period, Ms. Bilir confirmed that was correct and expressed staff's confidence in their proposal. The overall average cost increase was 6.8%. With a 9% rate increase, revenues would match costs. Commissioner Scharff supported staff's recommendation.

Commissioner Forssell thinks we need to replenish our reserves, cover our costs and replace our sewer mains to prevent future incidents. She supported staff's recommended proposal.

Chair Segal pointed out that the difference between 9% and 6% was 50 cents/month. She supported staff's recommendation. She wondered whether we were paying the proper share to maintain the plant, how the allocation was determined, when it was last determined and whether it was time to reconsider if our cost allocation was correct. Karin North, Assistant Director Public Works, responded that the cost allocation for the facility was discussed during meetings with the Finance Committee and Council when we looked at upgrading our secondary treatment plant. The long-range facility plan needed to be updated as well as looking at cost allocation across the partners. An RFP is being crafted to go out to bid for a consultant but it is anticipated it will take a few years to get that completed. James Allen, Manager, Water Quality Control Plant Manager, said they will look at the cost allocation methodology for fixed allocated capacity in the treatment plant, how that was determined in the past and whether it was worthy of being changed. The annual operating cost fluctuates based on flow and strength of wastewater measured with various instruments and billed annually.

Chair Segal asked that if our allocations were greater than they should be, if there was an opportunity to pay less for upgrade expenses. Mr. Allen replied that potentially there could be negotiations with Mountain View and amendments made. Future capacity allocations for flow and strength need to be determined for each community.

Chair Segal inquired if there was an opportunity to dig once and do gas replacement work during sewer replacement if gas was on the same side as sewer. Mr. Batchelor did not know if they were on the same side. Ms. Santos responded it was typically on the same side of the street; however, it was not practical because the expertise was different. Sewer contractors cannot replace gas because gas contractors are experienced and qualified. Water and gas was done together on the Upgrade Downtown project and they found some contractors capable of doing both. Chair Segal advised to dig once if possible, even if it was two teams working side by side, because digging is disruptive and expensive. Think creatively and look for synergies to hold down costs. Ms. Santos remarked that although they are on the same side, they are typically not in the same trench. Sewer uses the pipe-bursting method to minimize excavation. Sewer is in the middle of the street to be equal distance to both sides of the properties because sewer is on gravity. For gas, typically a new alignment is found because service is maintained while building a new gas main and testing it before it is activated. The alignment of the mains on each street is different.

ACTION: Commissioner Forssell moved Staff request the Utilities Advisory Commission (UAC) recommend the Finance Committee recommend the City Council:

1. Adopt a resolution (Attachment A):
    a. Approving the Fiscal Year (FY) 2024 Wastewater Collection Financial Plan (Linked Document); and
    b. Approving a transfer of up to $3.178 million from the Capital Improvement Program Reserve to the Operations Reserve in FY 2023; and
    c. Approving a transfer of up to $342,000 from the Rate Stabilization Reserve to the Operations Reserve in FY 2023; and
    d. Increasing Wastewater Collection Utility Rates Via the Amendment of Rate Schedules S-1 (Residential Wastewater Collection and Disposal), S-2 (Commercial Wastewater Collection and Disposal), S-6 (Restaurant Wastewater Collection and Disposal) and S-7 (Commercial Wastewater Collection and Disposal – Industrial Discharger) (Attachment B).

Seconded by Vice Chair Johnston.

Motion carried 7-0 with Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Metz, Scharff, and Smith voting yes.

ITEM 2: ACTION: Staff Recommend the Utilities Advisory Commission Recommend the Finance Committee Recommend that City Council Adopt a Resolution Approving the Fiscal Year 2024 Water Utility Financial Plan, Including Reserve Transfers, and Increasing Water Rates by Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service From Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service)

Lisa Bilir, Sr. Resources Planner, delivered a slide presentation. A 7% overall rate increase is proposed for the water utility in FY 2024. A 3% distribution rate increase is needed to pay for needed infrastructure, water main replacement and seismic upgrades to remaining reservoirs. The Operations Reserve was at the maximum at the end of FY 2022 with about $14M. The CIP Reserve and Rate Stabilization Reserve have funds available. Staff is proposing to move $3M from the Rate Stabilization Reserve in FY 2023 to mitigate the need for further rate increases as well as $3.7M from the Capital Improvement Projects (CIP) Reserve to the Operations Reserve to pay for needed infrastructure in 2023. The overall increase is 3% to 5% each year from 2025 through 2028. There was a proposed 11.6% increase in the commodity rate from our supplier, the San Francisco Public Utilities Commission (SFPUC), for capital investment, funds owed to wholesale customers (including Palo Alto) will be exhausted by the end of this fiscal year and regionally there were lower sales volumes because of the ongoing projected drought. In May, we will know the final rate increase that SFPUC adopts, which would be passed through to our customers by the commodity rate.

A chart was displayed showing the projected costs and revenues for the water utility. Costs have been above revenues, which were projected to continue this year. The reserves were projected to remain within the guideline range throughout the forecast period.

Commissioner Smith requested clarification on operational costs and distribution rates. Ms. Bilir explained that the operational cost for the water utility was separate from the water purchase cost in the main tables but they could be considered together. They were presented together on some tables but separate on others. The water purchase cost is an operational cost of the utility. Regarding the distribution rate in Table 11 on Page 15, there was a 6% annual increase from 2025 to 2028 but a historical operational cost of 4.8% on Page 3. Commissioner Smith queried if the 4.8% yearly operational cost was going to 6%. Ms. Bilir replied that the distribution rates included operational and capital costs.

Commissioner Smith remarked on the forecasted 3% growth in FY 2024, then 6% from 2025 onwards. Ms. Bilir commented that was the rate increase. Commissioner Smith inquired if that rate included our historical operation plus distribution plus CapEx. Ms. Bilir replied yes, that included all the distribution cost but Commissioner Smith was talking about a forecasted rate that was going to pay for the forecasted cost. Commissioner Smith questioned if historically our operations cost was 4.8%, why forecast 3% in FY 2024. Ms. Bilir explained that the forecast was not based on the historical average cost increases. They projected for each cost category their best estimates of the forecasted costs.

Commissioner Smith noticed a proposed increase of 3% for non-residential irrigation although we are in a drought. He believed we should discourage irrigation. Ms. Bilir responded that rates for each customer class were based on our cost-of-service study conducted in FY 2020 by an outside consultant.

In reply to Commissioner Smith's query if they considered in their financial model an alternative of flat-line increases of 4.8 to 5, Ms. Bilir answered yes but it led to a higher rate increase in FY 2024, so one of the benefits of taking this approach was reducing the overall impact on customers.

Commissioner Smith wondered if it was necessary to transfer money to cover all the CapEx now. In FY 2025, we are well above the median between low and high. Perhaps less could be transferred since the reserves were okay. Karla Dailey, Acting Assistant Director, Utilities Resource Management, agreed it was not necessary but it was felt that using some of the reserves was a prudent strategy when they took into account the full impact on the bill and the customer.

Commissioner Smith agreed with being prudent but significant rate increases were proposed across all utilities. If it was anticipated that we need more money for future projects, he suggested setting rates appropriately to ask for one increase. Coming back every six months or every year and continually increasing rates 10% would become frustrating for everybody.

Commissioner Forssell noted that staff always breaks down the percentage of the commodity consumed by different customer classes in gas and electric. The report had number of water customers as 81% residential single family and 19% other, which included multifamily residential and commercial but not a breakdown of water usage for residential versus commercial. Ms. Bilir responded that residential was about 63% of total water usage.

Commissioner Forssell was surprised to see on the Financial Plan on Page 6 it said that Palo Alto's capital costs were lower than budgeted in FY 2022 when we are in an environment where capital costs are always going up, so she asked if staff could provide an explanation. Ms. Bilir explained that the five-year capital budget has not fluctuated much in the water utility but in that year there were deferrals for work that had not been completed. In response to Commissioner Forssell's query as to the cause for work being deferred, Ms. Bilir thought it was work that needed more than one year to complete but she will see if she can find more specifics about the deferred project.

Since the Operations Reserve was for contingencies, Commissioner Forssell wanted to know why Part C of the recommended resolution was to approve a transfer of up to $3M from the Rate Stabilization Reserve to the Operations Reserve. Ms. Bilir replied that there was $9M in the Rate Stabilization Reserve, so using $3M/year for three years would mitigate the need to increase rates to cover costs.

In reply to Vice Chair Johnston's understanding that the chart on Slide 8 showed expenses would exceed revenues until at least FY 2027, Ms. Bilir confirmed that was correct. At the end of FY 2022, there was $9M in the Rate Stabilization Reserve and $14M in the Operations Reserve, so those funds were available to manage the rate increase. Vice Chair Johnston asked if that was what made up the difference between our costs and revenues. Ms. Bilir answered yes, together with funds in the CIP Reserve. Vice Chair Johnston thought it was a good plan to use reserves to keep customer bills down. Chair Segal agreed with using reserves to keep bills down but was nervous about FY 2026, although there was a lot of time before then to decide what to do about rates.

Chair Segal wondered if there was a way to better align cost savings for customers who conserve water because customers who have put more effort into conservation are not getting as much of a benefit in rate changes as those who use more water. Ms. Bilir responded that customers who conserve would save money on their bill and Chair Segal's idea is something that staff can think about when they do their next cost-of-service update to the rates and when designing a drought surcharge.

ACTION: Vice Chair Johnston moved Staff request that the Utilities Advisory Commission (UAC) recommend the Finance Committee recommend the City Council:

1. Adopt a resolution (Attachment A):
    a. Approving the Fiscal Year (FY) 2024 Water Utility Financial Plan (Linked Document); and
    b. Approving a transfer of up to $3.746 million from the Capital Improvement Program (CIP) Reserve to the Operations Reserve in FY 2023; and
    c. Approving a transfer of up to $3.0 million from the Rate Stabilization Reserve to the Operations Reserve in FY 2023; and
    d. Increasing Water Utility Rates Via the Amendment of Rate Schedules W-1 (General Residential Water service), W-2 (Water Service from Fire Hydrants), W-3 (Fire Service Connections), W-4 (Residential Master-Metered and General Non-Residential Water Service), and W-7 (Non-Residential Irrigation Water Service).

Seconded by Commissioner Smith.

Motion carried 7-0 with Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Metz, Scharff, and Smith voting yes.

The UAC took a break from 6:08 p.m. to 6:17 p.m.

ITEM 3: ACTION: Staff Recommends That the Utilities Advisory Commission Recommend that the Finance Committee recommend that the City Council Adopt a Resolution Approving the Fiscal Year 2024 Gas Utility Financial Plan, Including the Proposed Reserve and General Fund Transfers, and Amendment to the Gas Utility Reserve Management Practices, and Increasing Gas Rates by Amending Rate Schedules G-1 (Residential Gas Service), G-2 (Residential Master-Metered and Commercial Gas Service), G-3 (Large Commercial Gas Service), and G-10 (Compressed Natural Gas Service)

Jonathan Abendschein, Assistant Director, Utilities Resource Management, delivered a slide presentation on the Gas Utility Financial Plan and Proposed Rate Changes for FY 2024. We had extreme gas prices this winter but prices were coming down over the next few months, which would reflect in the March utility bills. Distribution revenues are currently below costs, so rates need to be increased in July. Gas supply rates are composed of commodity (the cost of gas purchased at market prices), transmission (the cost to transport gas to Palo Alto), the Cap and Trade program (mandated participation in the State program) and our City of Palo Alto Carbon Neutral Gas Portfolio charge for buying offsets. These rates pass through the actual costs the utility incurs for these components. Distribution rates represent the costs for the City to maintain its gas distribution system to transport gas to customers and to run our customer service center.

Distribution rates are 20% below cost. Reserves are very low. Staff requests a 21% distribution rate increase on July 1, which results in an approximately 8% increase in the overall bill. Overall gas supply costs were projected to be about 36% lower in FY 2024, so the net effect is customers would pay about 13% less in utility bills in FY 2024 than FY 2023. Measure L changed the methodology for General Fund transfers to a percentage of revenues, transfers are 18% of the gas utility gross revenues but Council can choose to transfer less. A chart was displayed demonstrating the amount of General Fund transfers if 18% of revenues was transferred each year. The significant increases in gas market prices and gas supply costs could lead to significant increases in the transfer amounts over the next few years. Alternative 2 was to transfer 15.5% for FY 2024. If the City continued to transfer less than 18% over the future years, it would yield a growth in the General Fund transfer that matched CPI (Consumer Price Index), similar to the growth

rate prior to the passage of Measure L. Staff is requesting the UAC and Finance Committee to make a recommendation to Council on which alternative to pursue.

The rate increases in the financial plan shown on the chart for FY 2024 Gas Cost and Revenue Projections were based on Alternative 2, assuming transfers less than 18%. By the end of FY 2023, reserves were expected to be significantly below risk assessment levels. In this rate proposal, staff requests that Council approve a rate plan that maintained reserves below minimum until FY 2027. To do otherwise would require double-digit rate increases. The condition of the reserves was due to the spike in energy prices and not all costs were passed through to customers.

In response to Chair Segal's query as to which transfer rate was assumed in the reserve projection, Mr. Abendschein responded that Alternative 2 was assumed but staff modeled the rate increases for Alternative 1 in the chart on Page 13 of the staff report, Alternative Gas Rate Projections.

Chair Segal asked if the transfer affected the Operations Reserve Projections. Mr. Abendschein replied that the chart on Page 12 of the staff report, Gas Operating Reserve Projections, was based on Alternative 2 but the two reserve projections were very similar.

Commissioner Smith wanted to know staff's confidence level rated on a scale of 1 to 5 that the projected gas supply costs were going to decrease by 36%. Mr. Abendschein responded that there was a lot of volatility in the markets and a lot of uncertainty, so would not give an answer on a 1 to 5 rating. Projections could change, either worse or better. Based on market indications, forward prices and quotes that staff is receiving from marketers, they do not see indications in the market of a similar winter as last year. In addition, staff is looking at hedging alternatives for next year.

Commissioner Smith expressed his concern about dipping below risk assessment. Mr. Abendschein remarked that if there was an emergency demand for cash that exceeded our reserves, staff expected to manage that within the organization, which is why staff was comfortable with this recommendation.

In reply to Commissioner Smith's query if Measure L capped transfers at 18%, Mr. Abendschein answered that Measure L specified that transfers would be 18% unless Council chose a lower transfer amount but you could not transfer more than 18%.

Vice Chair Johnston requested further explanation on how a hedging strategy could be used to lock in lower gas prices for the future. Mr. Abendschein explained that hedging locked in gas prices, although it may not lock in lower gas prices. The risk you take when you hedge is you may miss out on lower gas prices than when you purchased. The current strategy is to hedge one month in advance. Staff will evaluate a few different options and bring those to Council in the coming months.

Vice Chair Johnston commented that the community was concerned about seeing a repeat of what happened this winter and anything we could do to provide certainty on that was very important. On Page 12 of the Staff Report, Palo Alto gas bills were compared with PG&E's gas bills in January 2023. He wondered why PG&E was so much lower whereas normally we were lower. Mr. Abendschein responded that staff had the same question and was looking into it. PG&E had a winter hedging program but so did SDG&E and SoCalGas and both of them experienced the same spikes as Palo Alto. It was expected that when western gas prices are investigated, we would learn what PG&E's experience was during that time. Vice Chair Johnston advised notifying the community why we were higher than PG&E when we were normally lower once we have that explanation.

Vice Chair Johnston commented on the various alternatives. With Alternative 2, he would support having increases equal to CPI. Commissioner Scharff supported transfers closer to CPI. He does not think it was the intent of the voters to provide windfalls when commodity price spike. He recommended that the UAC choose 15.5%.

Commissioner Scharff asked if staff would come to the UAC with the hedging strategy before going to Council. Mr. Abendschein responded yes, that would be a UAC discussion item. Commissioner Scharff remembered there was a three-year hedging strategy that Council voted to get rid of it because our prices were higher over the long term. You can buy less volatility but pay more for gas. We are not energy traders, so it takes luck to hedge in a way that beats the market. We have to be careful that we do not lock in high prices. His recollection on laddering was we were consistently higher than PG&E over the long run because they did not use our same hedging strategy. Mr. Abendschein remarked that PG&E was underinvesting in their system at the time and as they started to ramp up investment it was more competitive because we were ahead on system investment. However, they also did not have a laddering strategy so when gas prices dropped around 2008, PG&E passed those savings through to customers. Palo Alto prices were higher than PG&E's for several years because of the long-term hedges.

Mr. Abendschein showed a chart on Page 20 of the staff report, Winter 2022/2023 Price Spike. Prices for the last few years were between 30 cents to 50 cents/therm up until 2022 when they started to rise, reaching $5/therm in January 2023. The chart is in $/MMBTU, which is the price per therm multiplied by 10.

Commissioner Forssell stated that a concerned customer asked her about the relationship between an individual customer's billing cycle and the variability of gas rates. Mr. Abendschein explained that people were billed for their usage at the price for that month. If somebody has a billing cycle with half of it in January and half in February, half of their consumption would be billed at the January rate and half at the February rate. How much you pay for gas was based on when your meter was read and the consumption was split between the two months. Commissioner Forssell commented that the Utility does not know whether consumption was largely weighted toward January or February for that hypothetical customer and Mr. Abendschein confirmed that was true.

In reply to Commissioner Forssell's question if the transfer amounts to the General Fund prior to Measure L were about 18% of gas revenue at the time. Mr. Abendschein replied yes. Looking back five or six years, the transfer amount varied but it was roughly 18%. Commissioner Forssell supported staff's recommendation of 15.5%, as she did not think it was the intent of voters to create a windfall when commodity prices increased.

Commissioner Forssell asked about the timeline for the Miriam Green settlement to return funds to customers from the General Fund. Dean Batchelor, Utilities Director, replied that he was waiting to hear back from City Attorney Molly Stump on when those funds (about $15M) would be released.

Commissioner Forssell requested further explanation on the Cap and Trade program and its effect on the financial state of the Utility. The City received allowances but she did not know if we were required by law to sell them on the marketplace and buy allowances back to cover our usage. She wondered if we bought and sold at the same price, if it was a net cost, net revenue or if it varied. Mr. Abendschein stated he could not talk about our bidding or consignment strategies because of regulations to prevent market manipulation. The money we receive from auctioning off allowances has to be held aside for the specific

purposes in the regulation; we cannot net it against our purchases. We have to purchase a certain amount and pass that cost directly through to customers to provide a price signal related to the price of carbon in the capturing program. The regulation allows revenues to be used for carbon-reducing activities or returned to customers in the form of a climate credit but they cannot be tied to consumption. Local policies adopted by Council in 2014 for the gas utility specified the uses, which include emissions-reducing activities and gas efficiency. Staff spoke with Council last fall about amending the list to include building electrification. Another policy stated these funds have to be used for the benefit of gas ratepayers. Our local regulations state that climate credits require Council approval.

Commissioner Forssell noted that the plan calls for our reserves to go below the risk assessment. Not having reserves, we were vulnerable to the actual costs going above our new cap of $4/therm if there was another price spike. Commissioner Forssell suggested considering a cap of $6/therm. Mr. Abendschein commented that a price cap could complement a hedging strategy.

Commissioner Bowie remarked that we were implementing a variety of electrification programs. Large customers could decide to electrify because of gas price spikes. He wondered if customers could fully disconnect and no longer be subject to a distribution rate. If so, there could be a significant number of customer defections in 2026. Mr. Abendschein said that an objective of Council policy is to have people reduce their emissions, which could eventually result in them disconnecting from the gas system over the long term and staff was working on a financial strategy to deal with this. Preliminary analysis was done a few years ago. The disconnections have to be planned carefully to enable the careful pruning back of the gas system. Gas price spikes will probably drive more interest in electrification but that was built into the expectations for the gas utility over the long term. Staff was working on a plan to manage the gradual decline in sales while still being able to run the gas utility reliably, safely and cost effectively for the remaining customers.

Commissioner Bowie was concerned about the effect on customers that may not have the ability to defect, such as multi-metered residential tenants. Mr. Abendschein agreed that was a concern of staff as well. He was less concerned about a sales decline when considering reserves because we were not able to protect against that with reserves. The risk of another price spike was a more likely issue to affect the reserves. A few years back, a preliminary analysis showed it was possible to prune back residential portions of the system and run a multifamily and nonresidential smaller gas utility at prices comparable to the prices we would have seen without gas sales decline. We may need to provide funding for people to transition who cannot afford it themselves. Another long-term possibility might be transfers from the electric utility to the gas utility as one increased and the other decreased. Staff will study these possibilities over the next year.

Vice Chair Johnston noticed on Page 9 of the Staff Report that we were building up very significant amounts in the Cap and Trade Reserve. He wondered if the reserves were being used. Mr. Abendschein responded that they have started to use them. They were spending $1.5M on the heat pump water heater program. As more climate action plan programs are rolled out, he expected we would be running the reserve down quickly.

Commissioner Metz commented on the Gas Operations Reserve. He urged staff to reexamine how to get the reserve above the minimum in a shorter period than three years. As a housekeeping item, he advised separating the components of the Operations Reserve instead of combining the Gas Distribution Fund Operations Reserve and Gas Supply Fund Rate Stabilization Reserve. Separating the distribution cost and commodity gas cost makes it easier to understand.

Regarding the commodity price spike, Commissioner Metz commented that City Council and ratepayers were very concerned and it required a visible and transparent analysis to address what happened and what we were doing to improve it.

Commissioner Metz wondered why we were depleting the distribution reserve to pay for commodity costs. He questioned whether that was wise because it masked the true drivers of costs and impeded our ability to make decisions on cost control and price structure. A 21% distribution rate increase was proposed. According to Page 7, 49% of the proposed distribution rate increase was to replenish the distribution reserve that was depleted to pay for high gas commodity costs. Commissioner Metz thought it was a bad business practice to move money between reserve funds that were not related, such as CIP to Operations or Commodities. Mr. Abendschein stated that Commissioner Metz's ideas were worth investigating, especially as they assess what can be done differently to more accurately and closely track the drivers of our different costs over the next year. But also, practically, when you have separate reserves for different purposes and one of them is wiped out, you need to tap into other reserves to keep your utility healthy.

Commissioner Metz expressed his concern that transfers between supply and distribution reserves misrepresents where our costs are coming from and could be subject to challenge. Mr. Abendschein responded that he could not speak to it being subject to challenge but said staff made a conscious effort to minimize transfers this year.

Council Member Lauing asked what staff's plan was if Finance did not think that citizens should tolerate an 8% increase and he requested that the Commission discuss this topic. Mr. Abendschein commented that alternatives were limited in the gas utility, which is one of the utilities with the highest regulatory obligations, best-practice safety obligations and moral obligations. There were opportunities to cut costs but that would require cutting back on safety-related capital investment in the gas utility, slowing down projects such as the cross-bore program or significant cuts to operational staff. Mr. Batchelor reiterated that the City would have to cut out or reduce the CIP program. There was about $800,000 in the four-year cross-bore program, for example. Staff would have to explain to Council what the safety factors were and see if Council was willing to take on those risks. Other options would be to look at other sources, perhaps cut some O&M expenses, but there was not many opportunities in those areas.

Commissioner Forssell remarked she would tread very carefully on trying to cut utility costs. Council could take a different direction and cut the carbon offset program, although she does not think it would save a lot of money. Cutting the General Fund transfer could reduce the rate increase and would not hurt the gas utility's ability to operate safely and reliably, though she did not want to set a precedent of having Measure L but not utilizing it.

Chair Segal worried that Council would focus on percentage numbers, so she thought it was important to speak of the increase in terms of dollar amounts. It was important for the community to understand that they benefitted from rate increases being held down for two years during COVID, and the utilities were catching up from operating at a deficit. It was important to emphasize the programs to help people who are struggling. The utilities are below the risk assessment in our reserves. She advised staff to look for ways to combine projects or give a contractor multiple projects, being more creative on how to save on projects. She suggested more creativity in compensating staff besides raising comp every year, maybe providing housing stipends, to alleviate some of the costs that go up every year.

Commissioner Smith echoed the comments of his fellow commissioners. COVID put us on hold. The REC exchange program was approved because we were in need of money. It was recently agreed that money from the REC exchange would go to decarbonization efforts. He thinks we need to be more creative with how we spend that revenue. We put rates below our cost for two years but we need to pay for it. We need to bring things up to code and we have an old system. The conversation about replacing our old infrastructure will continue into the next several years. We need to turn to electrification. We have an older electrical grid. These will cost massive amounts of money. He cautioned that we are not in a position to offer rate discounts.

Council Member Lauing commented that Palo Alto is going to grow in residents in the next 10 years, so we need infrastructure that factors in that growth.

Regarding the reserve graph, Chair Segal wondered why the reserve requirement amount spikes up in 2023. Mr. Abendschein explained that the guidelines were defined as a percentage of revenues for the year. The spike in gas costs drove an increase in the guideline levels.

Chair Segal questioned if having the reserves below the risk assessment amount for multiple years affected our bond rating and our ability to borrow in the future. Mr. Abendschein responded that he would have to talk to our Administrative Services Department before responding. Reserves were factored into bond ratings. The gas utility has one outstanding debt issuance due to expire in three years. They were not looking to issue debt in the gas utility. Chair Segal thought that utilities sometimes were collateral for other utilities, so the gas utility might not issue a bond but it was used as added collateral if a bond was issued by the electric utility. Mr. Abendschein confirmed it could be. When staff does the financial plans, they look at every debt issuance and make sure we have enough reserves across all the utilities to meet the guidelines. Chair Segal was okay with the proposal but next year she would like to revisit being below the reserve risk assessment.

ACTION: Commissioner Scharff moved Staff request that the Utilities Advisory Commission (UAC) recommend the Finance Committee recommend the City Council adopt a resolution (Attachment A):

a. Approving the fiscal year (FY) 2024 Gas Utility Financial Plan (Linked Document); and
b. Amending the Gas Utility Reserve Management Practices (Attachment B)
c. Transferring up to 18% of gas utility gross revenues received during fiscal year 2021 to the general fund in FY 2023;
d. Transferring up to 15.5% of gas utility gross revenues received during fiscal year 2022 to the general fund in FY 2024;
e. Transferring up to $3.82 million from the CIP Reserve to the Operations Reserve in FY 2023; and
f. Increasing gas rates by amending Rate Schedules G-1 (Residential Gas Service), G-2 (Residential Master-Metered and Commercial Gas Service), G-3 (Large Commercial Gas Service), and G-10 (Compressed Natural Gas Service) (Attachment C).

Seconded by Commissioner Metz.

Commissioner Scharff noted that tonight's motions have been for the UAC to recommend that the Finance Committee recommend to City Council. He believed it should be the UAC recommending to Council. The Finance Committee is advisory to Council. If the Finance Committee disagrees with the UAC, he wanted to know whether staff would still bring it forward to Council as the UAC's recommendation even though the motion was to recommend to the Finance Committee. Mr. Abendschein replied they would reflect the UAC's separate recommendation to Council.

Commissioner Metz believed the issues of transfers between supply and distribution reserves needed to be addressed before he could support the proposal.

The motion carried 6-1 with Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Scharff, and Smith voting yes, Commissioner Metz voting no.

The UAC took at break at 7:27 p.m. and resumed at 7:48 p.m.

ITEM 4: ACTION: Staff Recommends the Utilities Advisory Commission Recommend that the Finance Committee Recommend that the City Council Adopt a Resolution Approving the Fiscal Year 2024 Electric Financial Plan and Proposed Reserve Transfers, and Amending Rate Schedules E-HRA (Hydro Rate Adjuster), E-1 (Residential Electric Service), E-2 (Residential Master-Metered and Small Non-Residential Electric Service), E-2-G (Residential Master-Metered and Small Non-Residential Green Power Electric Service), E-4 (Medium Non-Residential Electric Service), E-4-G (Medium Non-Residential Green Power Electric Service), E-4 TOU (Medium Non-Residential Time of Use Electric Service), E-7 (Large Non-Residential Electric Service), E-7-G (Large Non-Residential Green Power Electric Service), E-7 TOU (Large Non-Residential Time of Use Electric Service), E-NSE (Net Metering Net Surplus Electricity Compensation), and E-EEC (Export Electricity Compensation)

Micah Babbitt, Resource Planner, delivered a slide presentation on the Electric Utility Financial Plan and Proposed Rate Changes for FY 2024. Staff's proposal resulted in no change to average system rates. Staff recommended reducing the Hydroelectric Rate Adjuster (HRA) by 50% and increasing base rates by 14%, so on net this should have little change to customer bills. Rates were kept flat during the pandemic. In April 2022, the HRA was activated. On July 1, 2022, the base rates were increased by 5%. Council voted to increase the HRA effective January 1, 2023. Costs have exceeded revenues since FY 2021. Costs were projected to be above revenues for FY 2023. The Operations Reserve was about $20M lower than projected. It will drop slightly below the minimum guidelines but will be above the risk assessment level.

There were multiple contributing factors driving our costs higher. We have had multiple years of drought. Hydro projections were reduced by 20% to be more conservative with the hope that we will not have to activate the HRA as frequently. The current level of precipitation was about 43.5 inches including the Northern Sierra Watershed, the main watershed that drives a lot of our hydro. The watershed's average yearly precipitation is about 53 inches. Reservoirs started from a very low point, so we likely will not start realizing some of this value for the next 12 to 24 months. There have been significantly higher electric prices, which have increased 300% from 2020 to 2022. The financial plan included about $200M of grid modernization investments that start as soon as this fiscal year and those debt service costs start showing up in FY 2025 and grow to about $9.5M in FY 2028.

Regarding the HRA that was recently increased and was now being proposed to be cut in half, Commissioner Metz asked if there was a plan to have something that more accurately reflected our actual cost of electricity supply in real time without requiring City Council input when there was a big change in energy prices. Mr. Babbitt responded that increasing the base rates was an attempt to bring our revenues in line with costs. The primary reason for the proposed change in the HRA rate was a change in the cost of replacement power we have to buy. Staff is working on a cost-of-service study for the electric utility. One of staff's work tasks is to look at transitioning the rate to a Power Cost Adjustor indexed to the market prices we pay and adjusted on a quarterly or monthly basis.

In reply to Commissioner Metz's query as to why the NEM-2 solar payment had an approximately 60% increase, Mr. Babbitt replied it was tied to our weighted cost of electricity. Chair Segal and Commissioner Forssell had the same question about NEM-1 and NEM-2 because the methodology for both was a weighted cost but one was about 14 cents and the other was 15 cents. Mr. Babbitt explained that one was backward looking at what our actual costs were and one was forward looking at what costs were expected to be. Jonathan Abendschein, Assistant Director, Utilities Resource Management, added that these two Net Energy Metering (NEM) programs were different ways of compensating for solar. NEM-2 was current. NEM-1 was looking back over a year and balancing surpluses against deficits. NEM-1 was governed by a set of regulations while NEM-2 was not.

Commissioner Metz urged staff to stop the practice of shifting money from reserve account to reserve account because it masks when our revenues and costs are out of alignment. Mr. Babbitt noted Commissioner Metz' comment and stated it was something that staff would work to address.

Regarding Table 1 on Page 6 of the Staff Report, a 14% increase was proposed in FY 2024, 8% in 2025 and 5% thereafter but the percentage change in the total system average rate dipped down by 3%. Commissioner Smith wondered if there was any benefit to dipping down instead of trying to keep it at zero. Mr. Babbitt replied that the assumption was that they would completely remove the HRA but it might be more prudent to keep it at zero. For a system average rate of 0%, base rates need to be increased by an offsetting amount. Commissioner Smith remarked that the sooner we get revenues equal to costs it would be better for everything, including the reserves. Mr. Babbitt stated that the cost-of-service analysis would be completed this year. Some additional rate changes would be recommended in October 2023 and one of those would be to restructure the HRA into a Power Cost Adjustor, which would change the projection for FY 2025.

Vice Chair Johnston commented that Slide 10 illustrates the effect of having held the electric rate for two years during the pandemic and using reserves to match expenses. It would be interesting to know if rates had increased 5% during those two years, what increase would be needed now. He guessed it would be much lower than 14%, which explains why we have these large increases to pay back the deficit incurred during the pandemic. It is important for people to understand they had a benefit in the past and now we are catching up.

Commissioner Forssell was glad that staff was lowering the hydroelectric forecast to represent a new normal. She asked what percentage of the City's electric load was predicted to be met with hydro in a new average year. Mr. Babbitt responded that hydro contributed 40% to 50% of our load. Calculating a 20% reduction, 30% of our load was now projected to be met from hydro.

In response to Commissioner Forssell's question if the discussion of the geothermal PPA opportunity took into account the lower forecast for hydroelectric, Mr. Babbitt replied it did not but it was debated internally how long the geothermal deal would make us, whether we should sign the geothermal PPA and simultaneously sell energy because it would make us long. There was no plan to make energy sales in addition to buying more geo.

David Yuan, Utilities Strategic Business Manager, addressed Commissioner Forssell's questions regarding the Cost of Service Study and AMI deployment, if the AMI pilot customers were on a time-varying rate or the E-1 Residential Electric Service, and what was the timetable for evolving our rates in conjunction with AMI. Approximately a thousand AMI meters have been deployed combining water, gas and electric with another couple thousand coming in the next couple months. They are trying to find a consultant to help

design time-of-use rates. By 2024, they are targeting to have pilot rates for AMI customers as well as an electric-only rate for those who have electrified so they are not penalized with a higher tier.

As we are still waiting for the consultant to report on the electric grid upgrades, Chair Segal wanted to know if those added costs were factored into the proposed rates. Mr. Babbitt responded that $300M for grid modernization investments were in the financial plan that goes past FY 2028. This plan looks at the future five years, so the chart showed $200M of the $300M. Staff is working with the consultant to finalize those values but staff is being conservative in the expectation of debt service costs.

Chair Segal was curious about the planned expansion of CAISO to a larger regional grid control area that could further increase our transmission cost. Mr. Babbitt replied it was part of the general trend in the power market of increasing regionalization and building more transmission to connect generation in various parts across the west and utilities and customers were paying for that transmission buildout, so our transmission costs continue to increase and were projected to increase more in the future.

Chair Segal heard from a few customers who were electrifying but were concerned about being asked to bear the entire burden of transformer upgrades. Chair Segal understands it required a change in Council rules but it was a wrong message and unfair that customers are paying to upgrade transformers that are benefitting everyone else on the transformer. They are very expensive, tens of thousands dollars for the transformer. She does not know how to get this in front of Council quicker but she was told it could take over a year. Mr. Abendschein responded that this was in their work plan. They agree that waiting over a year is too long but staffing issues are getting in the way to making progress faster. They were aiming for end of year and ideally significantly sooner. They are balancing this issue against similar competing issues such as the electric cost-of-service study and power cost adjustor, which were being worked on by the same staff. Staff will do everything they can to expedite it. Director Batchelor, Utilities Director, added that it was in their rules and regs, so they control that portion of it. They have been talking with the S/CAP Committee. They need to change the language, which can be done quickly. Staff will come back to the UAC with the proposed change and take it to Council for input. Staff will work with S/CAP to get it through quicker.

Commissioner Scharff has heard many complaints in the community about the transformer cost. As we ask the community to move toward electrification, staff needs to think about what issues will come up that will frustrate community members and turn them against electrification. You will ask yourself why you electrified if you receive a bill for $14,000 or $15,000 for your transformer. There may be issues such as electrical panel upgrades where the City controls the cost and does not allocate fairly. There might be costs that the fire department imposes. He suggested that staff reach out to the Planning Department and Building to discuss how to lower costs for people when they electrify.

ACTION: Commissioner Smith moved Staff request that the Utilities Advisory Commission (UAC) recommend the Finance Committee recommend the City Council adopt a Resolution (Attachment A):

1. Approving the Fiscal Year (FY) 2024 Electric Financial Plan (Linked Document);
2. Approving the following transfers at the end of FY 2023:
    a. Up to $15 million from the Supply Operations Reserve to the Distribution Operations Reserve;
    b. Up to $8 million from the Electric Special Projects (ESP) reserve to the Supply Operations Reserve; and
    c. Up to $4.5 million from the Supply Operations Reserve to the Cap and Trade Program Reserve; and

3. Approving the following transfers at the end of FY 2024:
    a. Up to $3 million from the Supply Operations Reserve to the Cap and Trade Program Reserve; and
4. Approving the following rate actions for FY 2024:
    a. A decrease to the retail electric rate schedule E-HRA (Hydroelectric Rate Adjuster) of 50% effective July 1, 2023;
    b. An increase to retail electric rates E-1 (Residential Electric Service), E-2 (Small Non-Residential Electric Service), E-4 (Medium Non-Residential Electric Service), E-4 TOU (Medium Non-Residential Time of Use Electric Service), E-7 (Large Non-Residential Electric Service), and E-7 TOU (Large Non-Residential Time of Use Electric Service) of 14% effective July 1, 2023;
    c. An increase to the Export Electricity Compensation (E-EEC-1) rate to reflect 2022 avoided cost, effective July 1, 2023;
    d. An increase to the Net Surplus Electricity Compensation (E-NSE-1) rate to reflect current projections of FY 2023 avoided cost, effective July 1, 2023; and
    e. An update to the Residential Master-Metered and Small Non-Residential Green Power Electric Service (E-2-G), the Medium Non-Residential Green Power Electric Service (E-4-G), and the Large Non-Residential Green Power Electric Service (E-7-G) rate schedules (Linked Document) to reflect modified distribution and commodity components, effective July 1, 2023.

Seconded by Commissioner Forssell.

The motion carried 7-0 with Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Metz, Scharff, and Smith voting yes.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

Commissioner Smith stated this was his last meeting. He had a delightful three years on the UAC. He has loved working with staff. He thanked his fellow UAC commissioners.

Vice Chair Johnston remarked this was his last meeting also. He enjoyed the seven years he spent on the UAC. He appreciated how fortunate Palo Alto was to have a Utility staff that was hard working, knowledgeable, creative and did a great job.

It was Commissioner Bowie's last meeting as well. He thanked staff for the hard work that goes into keeping the lights on and everything running and for allowing citizens to participate in the Utility. He thanked Council for the opportunity to sit on the UAC as well as thanks to the people of Palo Alto.

Chair Segal thanked Commissioners Smith, Bowie and Vice Chair Johnston and wished them luck on their next endeavors. We are all volunteers and it takes a lot of time and effort. They were prepared and brought thoughtful comments and passion. She enjoyed working with them.

Commissioner Scharff commented it was a loss for the UAC to lose Vice Chair Johnston and Commissioners Smith and Bowie at the same time. He enjoyed working with them.

FUTURE TOPICS FOR UPCOMING MEETINGS

Commissioner Metz noted the 12-month rolling calendar was four months long. He suggested adding dates going out 12 months to the items that need to be scheduled. It does not have to be next month but he proposed discussing staffing problems. Discussion ensued.

Dean Batchelor, Utilities Director, stated that HR gave some of their recruitment authority to the departments to do all the advertisement, set up interviews, do follow-throughs and make offer letters. Previously, it would take four or five months to get a job posted and two months to get back to a candidate. Staff was planning on going to some of the colleges for engineers. They have been successful going to Sac State and San Luis Obispo. Three new engineers came to us straight out of school and have been with us for about eight months. Staff has worked with the union on improving retention. Associates can test for positions and move up to a higher wage.

The biggest struggle is linemen. Oroville Lineman School has job fairs. We hired four individuals from that school but only one stayed. They go through our apprenticeship and then go to PG&E or their home state. There are three schools, Oroville, Texas and Idaho. We give them $100,000 worth of training for four years, not including their salary. We have three apprentices in their second year. Two graduated about six or eight months ago; one left to PG&E and the other stayed with us. We have stipulations in the contract that they owe the City a proration of the $100,000 if they leave before their seventh year, which PG&E paid when they hired our apprentice n because they are desperate for linemen.

Mr. Batchelor remarked that staff would provide an informational report that showed the percentage of openings on a quarterly basis, identify which were the difficult ones and how long they had been open but the Commission does not have any authority to set aside extra dollars or new programs.

Commissioner Forssell congratulated and thanked Commissioners Smith, Johnston and Bowie. She appreciated their service and enjoyed serving alongside them.

NEXT SCHEDULED MEETING: April 5, 2023

Vice Chair Johnston moved to adjourn.

Commissioner Bowie seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Johnston, and Commissioners Bowie, Forssell, Metz, Scharff and Smith voting yes.

Meeting adjourned at 8:36 p.m.

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2304-1334

TITLE
Approval of the Minutes of the Utilities Advisory Commission Meeting Held on April 12, 2023

RECOMMENDATION
Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the April 12, 2023 meeting as submitted/Amended.

Commissioner _____ seconded the motion.

ATTACHMENTS
Attachment A: 04-12-2023 UAC DRAFT Minutes

AUTHOR/TITLE:
Jenelle Kamian, Program Assistant I

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF APRIL 12, 2023 SPECIAL MEETING

CALL TO ORDER

Chair Segal called the meeting of the Utilities Advisory Commission (UAC) to order at 6:02 p.m.

Present: Chair Segal and Commissioners Croft, Forssell, Mauter, Metz, Phillips and Scharff

Absent:

Chair Segal welcomed new Commissioners Rachel Croft, Meagan Mauter and Robert Phillips.

AGENDA CHANGES, ADDITIONS AND DELETIONS

None

PUBLIC COMMENT

None

NEW BUSINESS

ITEM 1: ACTION: Staff Recommends the Utilities Advisory Commission Review and Approve the Utilities Advisory Commission's FY 2023-2024 Annual Work Plan, and Recommend the City Council Review the Work Plan and Provide Feedback

Chair Segal invited comments on the Annual Work Plan. The Current Commissioners section needs to be updated.

Mission Statement:
Suggestions included adding resource acquisition in the third line after wastewater collection. In the top line of Packet Page 7, change energy efficiency to efficiency (delete energy). In first item of bulleted list, change any major utility to any utility (delete major).

Prior Year Accomplishments:
Commissioner Forssell noted that fiber was not included. Mr. Batchelor agreed. Staff will add fiber.

Standing Topic 1:
Commissioner Metz commented that fair treatment of ratepayers, compliance with laws and regulations, especially regarding equitable rates and CPAU financial solvency are the main ingredients of budgets. He suggested that the Measure of Success could note some impact beyond getting our plan approved. Commissioner Phillips thought Commissioner Metz's wording could fall under Beneficial Impacts and tie

a specific goal to it. If the goal is the community having a better understanding, there should be a way of measuring it.

Commissioner Scharff stated his metric of success was comparing how we do versus other agencies. He suggested for Measure of Success to keep our rates where they have historically been. Commissioner Croft wanted to include solvency. Chair Segal suggested continuing to strive for lower rates based on comps where appropriate.

A second sentence added to Standing Topic 1 Beneficial Impacts: Fair treatment of ratepayers, compliance with laws and regulations with equitable rates. Tabatha Boatwright, Utilities Administrative Assistant, remarked that legally she could not include fair treatment of ratepayers. What is fair treatment to one commissioner may be not fair to another, so she will use another phrase.

Standing Topic 1 Measure of Success: Council approval of rate changes, Utilities budget and City of Palo Alto Utilities financial solvency. Maintain rates historical differences to other public agencies.

Commissioner Scharff believed it was important for government to let citizens know what is going on and be transparent. He wants citizens of Palo Alto to understand our basis for making decisions.

Standing Topic 1 Beneficial Impacts: The community will have a better understanding of the rates and why they are set at the levels they are being charged. Maintain a compliance of the laws and regulations with equitable rates.

Commissioner Croft suggested for Beneficial Impacts, the community would have an understanding of the rates (delete better).

Standing Topic 2:
Commissioner Metz suggested safety and hygiene of the City of Palo Alto under normal circumstances and emergency preparedness. We have reservoirs for emergencies. That is a benefit. That is how we could measure if we are doing a good job with water supply.

Commissioner Mauter wondered if there was a timeline for reviewing the One Water Plan and providing input. Mr. Batchelor replied that staff would bring it to the UAC first. The timeline is open. There is no date set for going to Council with the One Water Plan.

Chair Segal suggested the Timeline be year-round and multi-year effort. She suggested under High Priority, understanding the sources and maintenance of the City's water supply.

Standing Topic 2 Timeline: This is not a single effort or project; however, a year-round and multi-year effort.

Standing Topic 2 Measure of Success: Council approval of the One Water Plan, which includes adaptable, dynamic water supply portfolios. Safe and hygienic water supply under normal circumstances and sufficient resources in an emergency situation.

No changes for Standing Topics 3 and 4.

Standing Topic 5:
Commissioner Metz would like to add to Measure of Success, within the timeline and within budget.

Standing Topic 6:
Commissioner Metz suggested for Measure of Success to enhance reliability in the CPAU grid and in the generation transmission that supplies our grid.

Standing Topic 7:
Commissioner Metz was concerned that Measure of Success stated this is a non-measurable project. We can measure success in terms of whether legislation is in CPAU's favor.

Commissioner Mauter wondered if CPAU actively reviewed funding opportunities. There were several funding initiatives under the Inflation Reduction Act and IIJA. Staff should track those opportunities and identify ways to use federal funds to augment some of our other objectives. Ms. Boatwright responded that staff tracks those throughout the year. Utilities actively seeks and applies for federal, state and local grants. Commissioner Mauter suggested incorporating legislative and funding initiatives to the title for Standing Topic 7.

Chair Segal suggested for Measure of Success to include participation in relevant legislation and funding opportunities.

Mr. Batchelor remarked that staff could provide an informational report whenever they apply for funding and provide a follow-up on the outcome.

No comments on Standing Topic 8.

Chair Segal suggested adding wastewater as a standing topic. Mr. Batchelor stated fiber should be added to FY 2024.

Standing Topic 9:
Ms. Boatwright stated that Sanitary Sewer 30 was finished. They are working on Sanitary Sewer 31. That is going to Council in May. It is a CIP project but staff can break it out separately. Chair Segal left it to staff's discretion for wording.

FY2024 Topic 1:
Commissioner Croft suggested including reducing demand for power, water, etc. in the title. Mr. Abendschein recommended adding energy efficiency or demand management.

Commissioner Metz suggested adding CPAU providing the grid of the future. Mr. Abendschein noted that Council assigned that topic to the S/CAP Committee Work Plan. Mr. Batchelor remarked that the UAC would be involved, so they could add language around grid modification.

Chair Segal suggested adding and future technologies for sustainability, resilience and reliability at the end of the description.

FY2024 Topic 2:
Commissioner Phillips asked if AMI was expected to be installed everywhere in the city by CYQ4-2024. Mr. Batchelor replied yes, all meters (water, gas and electric) will be in by the end of 2024.

Chair Segal suggested deleting “discuss the” from the title and start the sentence with launch and deployment.

No comments for FY2024 Topic 3.

FY2024 Topic 4:
Commissioner Mauter commented that One Water supply would likely significantly increase electric load consumed by the water utility. She is curious about pathways to demand flexibility within the utility sectors and whether recognizing the grid impacts to some of these upgrades should be included. She also pointed out that there is often a lot of connectivity between utilities. Mr. Batchelor stated they could add language to include synergies.

FY2024 Topic 5:
Commissioner Metz suggested having a set of guiding principles to make decisions on when we underground and when we do not. Mr. Batchelor remarked that staff needs to make a concentrated effort at rebuilding some of the underground areas nearing end of the life as well as expand undergrounding in new locations. Upgrading our grid will be extremely costly. Undergrounding and adding fiber into the ground at the same time will help share costs.

Commissioner Phillips pointed out that transparency is important. More outreach to the community about what is going on with undergrounding would be useful.

Mr. Batchelor stated their number one goal is to change out old equipment (transformers, switches, etc.) with new equipment into an existing underground system. The secondary wire, the power that comes from the pole into our homes, seems to be the problem. Nobody wants the transformer box in front of their home, so that has been a challenge. The other challenge is the cost to the customer. They have to change their electrical panels and some customers have difficulty paying for upgrades.

Chair Segal advised the UAC that when staff is discussing an item on the agenda and does not mention synergies, one of the UAC’s responsibilities is to bring it up.

FY2024 Topic 6:
Commissioner Phillips asked if physical security should be included with cybersecurity. Chair Segal thought it was okay to expand the topic to physical security and cybersecurity.

FY2024 Topic 7:
Commissioner Metz asked about High Priority N/A. He thought water quality was a high priority. Ms. Boatwright explained how staff determines high and low priorities. A high priority means we have to take care of it right now to address an issue and there will be a problem if we do not take care of it. Water quality is a year-round thing, so it is a low priority meaning we do not need to do anything immediate because it is constantly a priority.

Commissioner Scharff heard from many people in the community concerned about water quality. He would like to know what the testing showed. Under Measure of Success, he suggested changing it to CPAU customers will or should have access to high-quality water, not are fortunate to have.

Commissioner Forssell noted that we do not test for suspended solids, which is one of the community’s concerns. We only test for dissolved solids.

Commissioner Mauter remarked that as Palo Alto considers moving toward a stronger water reuse component, it is incredibly important to be proactive about communicating the benefits or changes in water quality associated with water reuse plans. She would like to include that in the One Water Plan discussion or the water quality topic. Mr. Batchelor stated that One Water discusses recycling. Topic 7 is about testing at different points throughout the system.

Commissioner Mauter suggested changing the Measure of Success. You would like to diversify the source of supply to advance resiliency. In diversifying that source of supply, she thinks a conversation about the impacts on water quality is imperative.

No changes suggested for Topics 8, 9 or 10.

Topic 11:
Commissioner Metz suggested addressing the hydro adjustor. Mr. Abendschein stated he includes the hydro rate adjustor as part of the electric rate design review. Ms. Boatwright suggested rewording it to electric rate design review including the hydro adjustor.

Topic 12:
Commissioner Phillips believed the topic title made it sound like we have decided on hedging. He thought it should have a weaker verb such as discuss or analyze. He also suggested changing the title from in the winter months to for the winter months.

Topic 13:
Commissioner Mauter thought since the plan was to phase out gas long term, maybe it was worth talking about present and future gas rate design review. Mr. Batchelor responded they have not looked at that and it was not part of cost-based. They could add it as something they need to do but it is in the S/CAP overall plan to look for consultants.

Commissioner Forssell would like to include an additional FY2024 topic to the work plan. She wants the UAC to come to Council with a policy suggestion to replace the customer-paid policy for transformer upgrades triggered by a resident attempting to electrify.

Commissioner Scharff supported Commissioner Forssell's suggestion but would like to include all of the customer-paid things. Mr. Batchelor replied that staff is looking at all of the paid procedures. Ms. Boatwright noted that topic was included in the electric design review. Mr. Batchelor will add it to the work plan as another topic with its own timeline and measure of success.

Mr. Batchelor stated that the work plan is going to Council in May. Staff will likely bring it back to the UAC as a discussion or an informational report in June.

ACTION: Commissioner Scharff moved to approve the UAC 2023-2024 annual work plan as amended.

Seconded by Commissioner Phillips.

Motion carries 7-0 with Chair Segal and Commissioners Croft, Forssell, Mauter, Metz, Scharff and Phillips voting yes.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

None.

FUTURE TOPICS FOR UPCOMING MEETING

None.

Tabatha Boatwright, Utilities Administrative Assistant, reminded the UAC that in May the agenda will include selecting the chair, vice chair and subcommittee members in addition to the usual full agenda.

NEXT SCHEDULED MEETING: May 3, 2023

Commissioner Metz moved to adjourn.

Commissioner Phillips seconded the motion.

The motion carried 7-0 with Chair Segal and Commissioners Croft, Forssell, Mauter, Metz, Scharff and Phillips voting yes.

Meeting adjourned at 8:08 p.m.

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2304-1317

TITLE
Approval of UAC Chair and Vice Chair to Serve a Short Term of May 3, 2023 to March 31, 2024

RECOMMENDATION
Recommended Motion

Commissioner ____ moved to approve Commissioner ____ as Chair.

Motion seconded by Commissioner ___.

Commissioner ___ moved to approve Commissioner ___ as Vice Chair.

Motion seconded by Commissioner ___.

EXECUTIVE SUMMARY
Annually the Chair and Vice Chair are selected at the beginning of the new recruitment term for a period of one year, from the first meeting in April through March of the following year.

This matter is agendized so Commissioners can appoint a Chair and Vice Chair for a short term from May 3, 2023 through March 31, 2024.

AUTHOR/TITLE:
Jenelle Kamian, Program Assistant I

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2304-1316

TITLE
Approval of UAC Budget Subcommittee Members to Serve a Short Term of May 3, 2023 to March 31, 2024

RECOMMENDATION
Recommended Motion

Commissioner ___, Commissioner ___, and Commissioner ___ volunteered to be on the Budget Subcommittee for a short term of May 3, 2023 to March 31, 2024.

EXECUTIVE SUMMARY
Historically, two or three Commissioners serve on a UAC Budget Subcommittee and will meet with Utilities Staff outside of the regular UAC monthly meetings to learn about and review the Utilities budget. The budget item(s) will come to the full UAC for additional discussion and action. This matter is agendized so the UAC can approve member appointments to the UAC's Budget Subcommittee.

AUTHOR/TITLE:
Jenelle Kamian, Program Assistant I

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2301-0857

TITLE
Discussion and Presentation of Utilities Strategic Plan Implementation

EXECUTIVE SUMMARY
This meeting is part of an ongoing discussion on the implementation of the 2018 Utilities Strategic Plan (Staff Report No. 9022)[1]. The Utilities Strategic Plan identified four high priority focus areas:

1. Workforce;
2. Collaboration;
3. Technology; and
4. Financials

DISCUSSION
The Utilities Strategic Plan provides a map for implementing priorities, strategies, and actions which aligns with the Palo Alto Utilities' Mission of Providing Safe, Reliable, Environmentally Sustainable and Cost-Effective Services. The plan is comprised of four priorities reflecting the needs of the organization and customers, and steps to help meet these needs. Each of the four priorities contain multiple strategies and detailed actions.

Priority #1- Workforce

We must create a vibrant and competitive environment that attracts, retains, and invests in a skilled and engaged workforce.

The City of Palo Alto Utilities (CPAU), along with other utilities providers throughout the state and country, struggle with attracting and retaining a skilled workforce. For Palo Alto, this is even more complicated as the cost of living and/or relocating to the Bay Area is among the highest in the nation. The Workforce priority reflects the need to improve retention and recruitment efforts

[1] Staff Report 9022 https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2014/final-staff-report-id-4547_amendment-no-1-to-cotp-long-term-layoff.pdf

to ensure CPAU has the staff and/or workforce solutions to meet its core service obligations and customers' expectations on a long-term basis. The strategies and actions identified are intended to focus in the areas of retention, recruitment, training and work-life balance.

Priority #2: Collaboration

We must collaborate with internal teams and external stakeholders to achieve our shared objectives of enhanced communication, coordination, education and delivery of services.

Delivering high quality services to customers is a shared objective across all CPAU services. To do so in an efficient and consistent manner requires an understanding of customer and stakeholder needs along with the ability to effectively communicate and coordinate efforts internally and externally throughout the City. The Coordination priority contains strategies and actions highlighting certain projects and/or initiatives requiring a high level of collaboration, such as deployment of distributed energy resources and electrification, to effectively implement. Additional strategies focus on promoting a culture of collaboration and a systematic process to ensure two-way communication with customers, within CPAU and throughout the City.

Priority #3: Technology

We must invest in and utilize technology to enhance the customer experience and maximize operational efficiency.

The increasing convergence of technology, utility services, and customer expectations is driving significant change in the utility markets. CPAU must embrace technology to further enhance internal operations and improve efficiency in this changing market. Customer adoption of new technology applications has dramatically changed interactions between the utility and customer, and demand for services. The Technology priority includes implementing a technology roadmap to effectively guide CPAU's customer and operational technology investments and programs. Additional Technology strategies include AMI deployment, enhancing customer interaction, improving field operations, and training employees to ensure effective use of existing and new tools.

Priority #4: - Financial Efficiency and Resource Optimization

We must manage our finances optimally and use resources efficiently to meet our customers' service priorities.

Facing an evolving utility business environment, aging infrastructure needs, and sustainability objectives, CPAU must maintain a competitive position in the market. Remaining financially

sustainable and competitive in the market while optimizing resources is key to maintaining and enhancing value to customers. Strategies in this Priority focus on proactively renewing and managing CPAU's infrastructure, continuously improving financial processes, enhancing infrastructure maintenance programs, defining CPAU's role in community resiliency, and achieving sustainable energy resource and water supply plans.

Progress on implementing these strategies or actions are reported as follows:

1. Not started
2. In progress
3. Completed

Over time, some strategies and actions may change and become obsolete, modified, or newly added. These types of changes are reported as follows:

1. New – new strategies or actions added
2. Modified – existing strategies or actions which have been modified
3. Deleted – existing strategies or actions which are obsolete and no longer applicable

Additionally, for detailed actions, staff tracks how the actions align with each of the following Palo Alto Utilities' Missions:

(S) = Safety
(R) = Reliability
(E) = Environmental sustainability
(C) = Cost-effective services

To maintain regularity for these updates, staff recommends reporting updates annually each October, for the most recently completed fiscal year end period.

ATTACHMENTS
Attachment A: Presentation

APPROVED By:
Dean Batchelor, Director of Utilities
Staff: Dave Yuan, Strategic Business Manager
Anna Vuong, Senior Business Analyst
Catherine Elvert, Communications Manager
Jonathan Abendschein, Assistant Director of Utilities

UAC MEETING 5
May 03, 2023
☑Received Before Meeting

Staff: Anna Vuong; Catherine Elvert,
Dave Yuan and Jonathan Abendschein

CITY OF PALO ALTO

UTILITIES STRATEGIC PLAN

FY23 Progress Update (07/01/22-12/31/22)

May 3, 2023

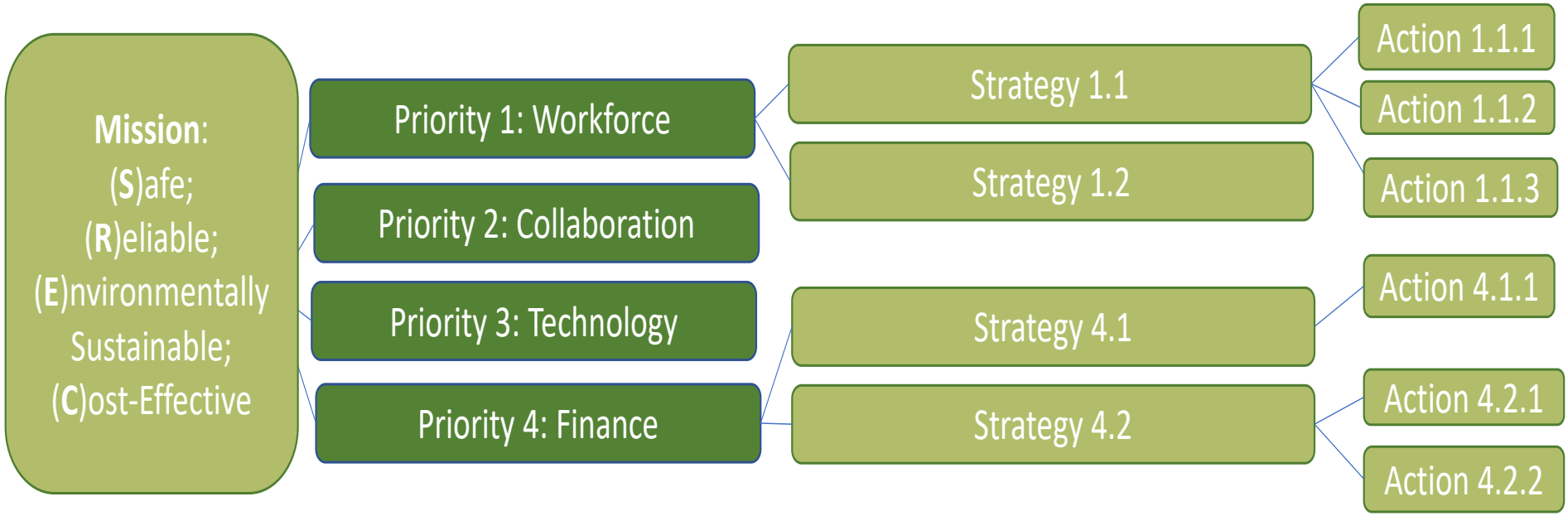
www.cityofpaloalto.org

IMPLEMENTATION

The Utilities Strategic Plan (USP) was adopted in 2018 to meet Palo Alto Utilities' Mission of providing (S)afe, (R)eliable, (E)nvironmentally sustainable and (C)ost-effective services.

Implementation of the plan was organized by

- Four priority focus areas (workforce, collaboration, technology, & finance/resources)
- Specific strategies for each priority
- Individual actions for each strategy (if any)



HIGHLIGHTS FOR FY 2023

- Changes
  - Tags for mission and strategies
    - (S) = Safety
    - (R) = Reliability
    - (E) = Environmental sustainability
    - (C) = Cost-effective services
  - Other updates (KPI, new strategies or initiatives)

- Ongoing: Updates for each fiscal year to be provided to UAC annually

CITY OF PALO ALTO

PRIORITY 1

WORKFORCE

May 3, 2023

www.cityofpaloalto.org

PRIORITY 1: WORKFORCE MISSION & STRATEGIES

Mission

Create a vibrant & competitive environment that attracts, retains, & invests in a skilled & engaged workforce.

Strategies

- S1: Establish CPAU as an organization where employees are proud to work & recruit other strong performers. (S, R, E)
- S2: Create a workplace that attracts & retains skilled employees. (S, R, E)
- S3: Evaluate & consider alternative workforce solutions to achieve organizational business objectives. (R)

PRIORITY 1: WORKFORCE ACCOMPLISHMENTS

Accomplishments

- Established a system operators training program (S1)
- Developed training & career progression path for water/gas/wastewater engineering (S3)
- Created position vacancy tracking system to assist HR. Established HR Department Liaisons to help speed up recruitments. (S2)
- Developed extensive list of places to advertise, an outreach strategy guide, & timeline for hiring managers. (S2)
- Executed engineering & construction contracts to augment Engineering, Electric Operations (S3)
- Hired four new Electric Engineers from Cal Poly San Luis Obispo (S2)
- Implemented remote work schedule for specific workgroups (S3)
- Conducted employee satisfaction survey (S2)

PRIORITY 1: WORKFORCE INITIATIVES

Initiatives in Progress

- Apply training & career path template to other divisions (S1)
- Complete promotion readiness evaluations (S2)
- Explore digital recruitment ads (S2)
- Work on ways to share team-building ideas (S3)
- Continue exploring daycare options (S3)
- Continue exploring retention options (S3)

PRIORITY 1: KPIs

Key Performance Indicator Goals

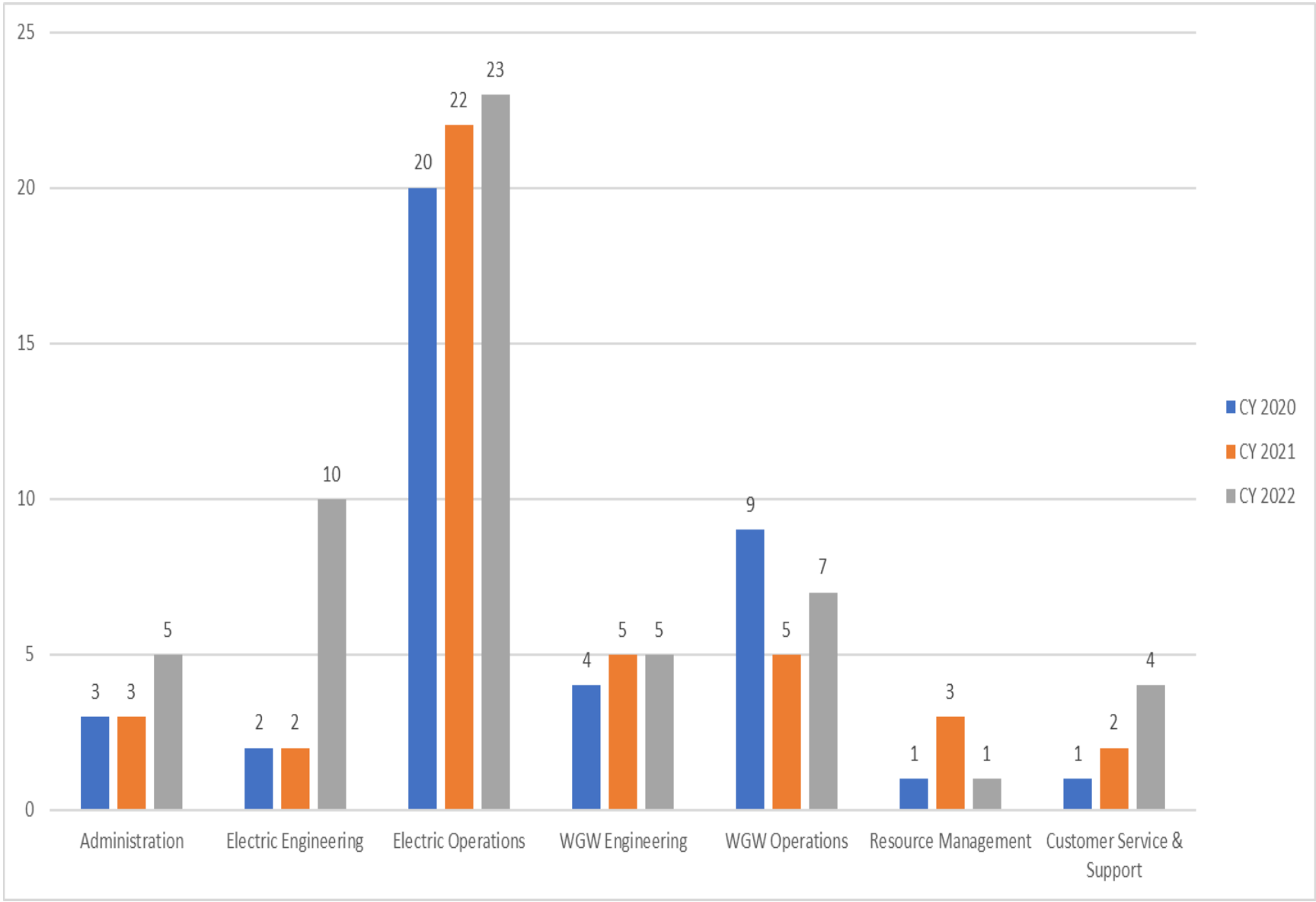
- *Employee turnover rate < 10% by 2020 (3-yr average of filled positions, 197)*

Turnover	CY 2020	CY 2021	CY 2022
Separations	25	21	25
Vacancies	43	45	57
Turnover Rate	13%	11%	13%

- *90% of all positions filled annually; 100% of critical positions filled within 90 days*

Percentage Filled	CY 2020	CY 2021	CY 2022
Filled	201	200	191
Authorized FTE	244	245	248
Positions Filled	82%	82%	77%

PRIORITY 1: WORKFORCE STATISTICS



CITY OF PALO ALTO

PRIORITY 2

COLLABORATION

May 3, 2023

www.cityofpaloalto.org

PRIORITY 2: COLLABORATION MISSION & STRATEGIES

Mission

Collaborate with internal teams & external stakeholders to achieve our shared objectives of enhanced communication, coordination, education, & delivery of services.

Strategies

- S1: Increasing communication through active listening & engagement with the **community** enhances customer satisfaction & community trust & will help us deliver programs & content based on community desires. (E, C)
- S2: Strengthening coordination & integration **across City departments** aligns Utilities & City goals while improving performance & efficiency. (S, R, E, C)
- S3: Fostering a culture of cooperative work **within Utilities** improves productivity & awareness & understanding of our common goals. (S, R, E, C)
- S4: Collaborating with **government, trade, & regional agencies** enhances our sphere of influence, allows us to identify common ground, & leverage economies of scale. (S, R, E, C)

PRIORITY 2: COLLABORATION ACCOMPLISHMENTS

S1: Community focus

- Began the Advanced Heat Pump Water Heater (HPWH) program as a key priority in the S/CAP to meet community greenhouse gas (GHG) emissions reductions (contract approval, work with marketing consultant). (Fall-Winter ’22)
- Hosted a community workshop on home electrification alternatives, focused on HPWH, plus EV/E-bike alternatives. (Oct ‘22)
- Hosted community workshops for the One Water Plan. (Fall-Winter ’22)
- Implemented enhancements to MyCPAU to make it easier for customers to pay their bills online, access energy, water, & electrification tools (EV & solar cost estimators, WaterSmart) with a single sign-on. (Summer-Winter ’22)
- Refashioned website navigation and page flows to streamline customer entry & experience in accessing programs on website = “one-stop shop.” (Winter ’22)

S2: Interdepartmental focus

- Utilities & Planning/Development Services collaborated to develop new Green Building (Reach Code) requirements for the 2023-2025 building code cycle. Council approved in November 2022, effective January 2023. (Fall ‘22)
  - **Note, held a series of community stakeholder meetings for involvement & feedback.*
- Utilities & Planning/Development Services (PDS) collaborated to create an instant HPWH permitting process. PDS staff time to process a HPWH permit application decreased from 0.5 hour (hr)/permit to 0 hr/permit for at least 50% of permit applications. (Winter ‘22)

PRIORITY 2: COLLABORATION ACCOMPLISHMENTS

S3: Intradepartmental focus

- Initiated beta phase installation of Advanced Metering Infrastructure (AMI) for electric, gas, & water meters in residential areas of the City. Collaboration between Utilities engineering, operations, billing, customer service, communications, & customer programs to facilitate customer outreach, operational efficiency. Installed 1,100 meters to-date. (Fall '22)
- Implemented single sign-on to MyCPAU for programs such as WaterSmart involved collaboration between customer service, customer programs (UPS), billing. (Fall '22)

S4: Government & outside agencies focus

- Fall-Winter 2022: Participated in ongoing statewide Reach Codes Team meetings. Leadership positions & speaking engagements with local government coalitions, non-profit organizations, & advocacy groups to facilitate ease of adoption & implementation of new Reach Codes. (Fall-Winter '22)
- Collaborated with educational institutions such as Cal Poly San Luis Obispo, Sacramento State and San Jose State for recruitment purposes. Successful in hiring four Electric Engineers from Cal Poly. We actively post our jobs to external sites including Indeed, Jobs Available, Handshake (29 Colleges), Climatebase Jobs, Energy Central, and through agencies such as the Northern California Power Agency (NCPA), Northwest Public Power Association (NWPPA) and American Public Power Association (APPA). (Fall-Winter '22)

PRIORITY 2: COLLABORATION INITIATIVES

Initiatives in Progress

- S1: Community focus
  - Engage customers with new Outage Management System for enhanced notification & communication.
  - Spread awareness about the customer benefits of Advanced Metering Infrastructure (AMI) such as improved efficiency for energy and water usage, leak detection & other anomalies.
- S2: Interdepartmental focus
  - Continue collaboration with Planning & Development Services on Reach Codes development.
  - Working with Public Works Department to identify electrification potential in City facilities.
- S3: Intradepartmental focus:
  - Coordinating customer service & outreach efforts for launch of Advanced Metering Infrastructure (AMI) program & new Outage Management System (OMS).
- S4: Government & outside agencies focus
  - Collaborating with educational institutions & companies to attract local candidates for CPAU positions.
  - Regional coordination for response to climate change including drought, wildfires, shift from fossil fuels.
  - Continued collaboration on legislative and regulatory items with NCPA, CMUA, and other industry partners.

PRIORITY 2: COLLABORATION KPIs

Key Performance Indicator Goals

- **Revising KPIs since 2018 adoption.**
  - Note: could not compare results to previous years due to change in CMUA/survey consultant. Recalibrating metrics for success.
- (S1) 50% or higher customer awareness for customers affected by CPAU's key programs/initiatives
  - CMUA Key Account & Business Customer Survey results = 66.7% reported "very likely" would recommend City's energy & water efficiency programs to colleague or friend
  - Last survey of residential customers (2021) "Usage of Customer Programs" = 53% for consulting home audits
- (S1) 85% or higher "excellent/good" rating in annual customer satisfaction survey
  - CMUA Key Account & Business Customer Survey results = 78.7%
    - 8.5 % point increase compared to statewide municipal customers surveyed (70.2%)
  - Over one-half (58.3%) believe their utility is either "among the best" or "above average" compared to other service providers they use.
    - 2% higher compared to statewide municipal customers surveyed (56.3%)
  - Among the 19.6% CPAU commercial customers assigned an account manager, the majority (85.7%) reported satisfaction with business customer management.
  - Nearly ¾ respondents (71.4%) provided "excellent" ratings on overall job key account advisors do for their organization.
- (S2, S3) 80% or more actions which were initiated under Collaboration complete or are in progress this Fiscal Year.
  - Close to 100% of actions complete or in progress. Updating action items to reflect new and ongoing priority initiatives.

CITY OF PALO ALTO

PRIORITY 3

TECHNOLOGY

May 3, 2023

www.cityofpaloalto.org

PRIORITY 3: TECHNOLOGY MISSION & STRATEGIES

Mission

Invest in & utilize technology to enhance the customer experience & maximize operational efficiency.

Strategies

- S1: Finalize & implement technology road map to clearly identify CPAU's short-term & long-term goals, reflect customer & operational needs, prioritize projects & guide decisions. (R, E)
- S2: Deploy AMI to increase reliability, enhance customer service, & improve response time. (R, E, C)
- S3: Invest in technology infrastructure to enhance customer engagement & satisfaction. (S, R, E, C)
- S4: Implement technologies to improve response time, security & operational efficiency. (S, R, E, C)
- S5: Ensure & empower employees with current technologies to perform work efficiently. (S, R, C)

PRIORITY 3: TECHNOLOGY ACCOMPLISHMENTS, INITIATIVES, KPIs

Accomplishments from 2019 thru FY 2022

- Implemented MyCPAU- new customer engagement & account management website - Apr'20 (S3)
- Completed phase 1 of SAP ERP upgrade – Dec '21 (S1)
- Installed AMI base stations & meter data collectors – Aug'22 (S2)

Initiatives in Progress

- Complete engineering design for fiber backbone & fiber-to-the premise – Jun'23 (S3)
- Implement S/CAP initiatives: EV infrastructure, Heat Pump Water Heaters – Jan'23 (S3)
- Implement Phase 2 of SAP upgrade including on-bill financing & business process automation – Jun'23 (S1)
- Deploy 2,000 advanced electric, gas & water meters during beta phase - May'23(S2)
- Train Customer Service & Meter Shop Groups on AMI tracking systems (RNI & Compass) Apr'23 (S2)
- Implement new outage management system with enhanced notifications – Jun'23 (S3)
- Migrate Electric Utility to new ESRI GIS system – Jun'23(S4)

PRIORITY 3: TECHNOLOGY KPIs

Key Performance Indicator Goals

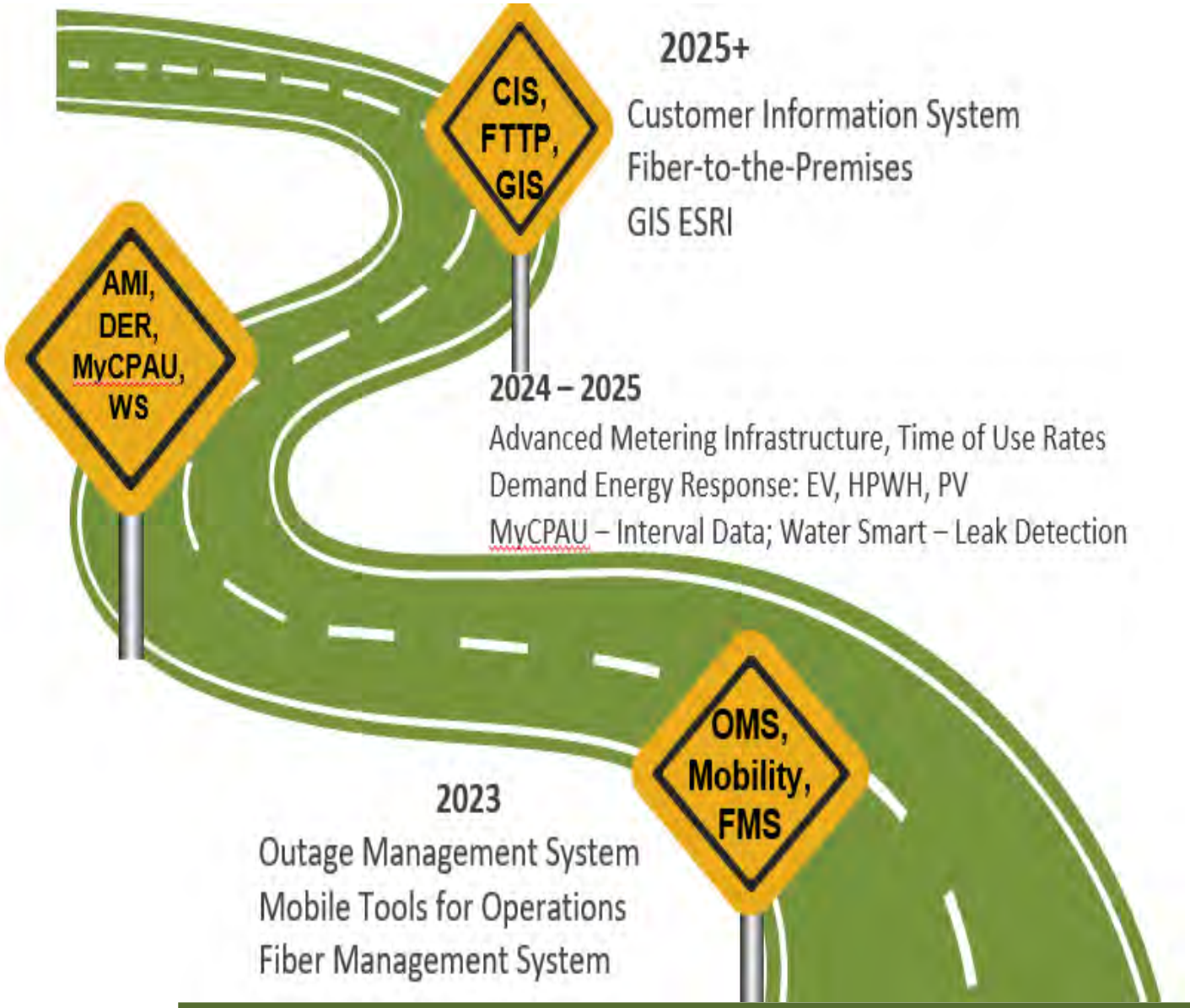
- *Increase MyCPAU customer website users 10% utilization by 5% each year*

MyCPAU	FY 2020	FY 2021	FY 2022	Y/Y % Goal
1. Utilities Accounts Registered (Active)	19,604	22,618	23,828	
Y/Y % Change	-	15.4%	5.3%	5%
2. # of Paperless Utilities Accounts	5,096	6,696	7,195	
Y/Y % Change	-	31.4%	7.5%	10%

- *Paperless tools for field support staff: 50% by Dec 2018 / 90% by Dec 2019*

Division	FY 2019	FY2020	FY 2021	FY 2022
Engineering	25%	33%	40%	50%
Operations	50%	65%	65%	75%

PRIORITY 3: TECHNOLOGY ROADMAP



CITY OF PALO ALTO

PRIORITY 4

SUSTAINABILITY, FINANCE, AND INFRASTRUCTURE

May 3, 2023

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PRIORITY: SUSTAINABILITY, FINANCE, AND INFRASTRUCTURE

Important changes to this priority

- Update outdated strategies and actions from 2018 plan to reflect current utility objectives
- Change name of priority itself to better reflect current utility objectives
- Add new strategies and actions to replace those completed from 2018 plan

PRIORITY: SUSTAINABILITY, FINANCE, AND INFRASTRUCTURE

Mission

We must manage our finances optimally & use resources efficiently and sustainably to meet our customers' service priorities.

Strategies (Deleted)

Deleted obsolete or completed Strategies

- ~~S1: Review & update (as needed) Water/Gas/Wastewater infrastructure maintenance & replacement program & establish regular reporting for senior management & policy makers~~
- ~~S2: Develop financial planning processes that provide stability & clear communication of service priorities & the cost of achieving those priorities.~~
- ~~S3: Review & update (as needed) Electric infrastructure maintenance & replacement program & establish regular reporting for senior management & policy makers~~
- ~~S4: Achieve a sustainable & resilient energy & water supply to meet community needs~~
- ~~S5: Engage stakeholders & define CPAU's role in supporting & facilitating community resiliency~~

PRIORITY: SUSTAINABILITY, FINANCE, AND INFRASTRUCTURE

Strategies (New)

New Strategies added to better reflect current Utility objectives

- S1 (**New**): Maintain and enhance infrastructure maintenance and investment programs (S, R, C)
- S2 (**New**): Create and implement an efficient, sustainable energy supply plan, including accounting for load growth related to Sustainability and Climate Action Plan (S/CAP) goals (S, R, E)
- S3 (**New**): Create and implement an efficient, sustainable water supply plan for a changing climate (S, R, E)
- S4 (**New**): Develop and implement cost-efficient, electric and gas infrastructure transition plans to manage load shifts related to S/CAP goals and to modernize infrastructure to manage and use new technologies (S, R, E, C)
  - Includes the following action, among others: Complete and implement an electric reliability and resiliency strategic plan
- S5 (**New**): Develop and implement a gas utility financial transition plan to manage potential rate impacts and equity issues related to S/CAP goals (R, E, C)
- S6 (**New**): Partner on an inter-departmental assessment of S/CAP funding needs and potential funding sources, including assessing utility rate impacts and other related utility impacts (E, C)

PRIORITY: SUSTAINABILITY, FINANCE, AND INFRASTRUCTURE

Strategies (New) ...continued from prior page

Replaced/New Strategies to better reflect current Utility objectives

- S7 (**New**): Partner on implementation of S/CAP Work Plan. (R, E)
  - Includes the following actions, among others:
  - Complete an electric vehicle strategic plan to guide infrastructure investment
  - Partner with other Departments to establish customer-friendly programs to help residents and businesses electrify their buildings and vehicles

PRIORITY 4: ACCOMPLISHMENTS

Accomplishments July 2022 through December 2023

- (S2) – Kicked off initial Electric Integrated Resource Plan discussions with UAC
- (S3) – Held two community workshops on the OneWater Plan, plan currently in development
- (S4) – Initiated discussions of gas infrastructure transition plan study, added budget requests to FY 2024 budget
- (S4) – Completed grid modernization study
- (S5) – Initiated discussions of gas financial transition plan study, added budget requests to FY 2024 budget
- (S6) – Wrote first draft of scopes and began building internal consensus on study approach
- (S7) – Partnered on drafting S/CAP Work Plan for review by S/CAP Committee

PRIORITY 4: FINANCE INITIATIVES, & KPIs

Initiatives in Progress

- (S2) – Analysis supporting the Electric Integrated Resource Plan is in progress
- (S3) – Consultant analysis to complete OneWater Plan currently in progress
- (S4) – FY 2024 budget requests under consideration, developing staffing plan for study
- (S4) – Preparing for upgrade and modernization of first neighborhood under electric grid modernization plan
- (S4) – Engaging S/CAP Committee on scoping for Reliability and Resiliency Strategic Plan
- (S5) – FY 2024 budget requests under consideration, developing staffing plan for study
- (S6) – Drafted S/CAP Funding Study scope, continuing internal review and preparing for S/CAP Committee review
- (S7) – Partnering with other departments to get Council approval of S/CAP and S/CAP Work Plan, launch Advanced Heat Pump Water Heater Pilot Program, develop new building electrification programs, and enhance existing programs.

Key Performance Indicator Goals

- To be updated, still in development

CITY OF
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ALTO

Presenters

Intro: Dean Batchelor

P1 Workforce Lead: Anna Vuong

P2 Collaboration Lead: Catherine Elvert

P3 Technology Lead: Dave Yuan

P4 Sustainability, Finance and Infrastructure Lead: Jonathan Abendschein

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2302-0949

TITLE
Staff Recommendation That the Utilities Advisory Commission Recommend the City Council Adopt the Proposed Operating and Capital Budgets for the Utilities Department for Fiscal Year 2024

RECOMMENDATION
Staff recommends the Utilities Advisory Commission recommend the City Council adopt the Proposed Operating and Capital Budgets for the Utilities Department for Fiscal Year 2024.

EXECUTIVE SUMMARY
Linked and referenced below are the FY 2024 Proposed Operating and Capital budgets for the Utilities Department. Due to the number of pages of the CIP budget, staff only printed the CIP overview and five year forecast of each utility for FY 2024– FY 2028.

The entire Utilities CIP budget for FY 2024 – FY 2028 with the individual project pages can be downloaded and viewed in full from the links below:

Preliminary Proposed Utilities Capital Budgets for FY 2024 - FY 2028:

- Electric CIP[1]
- Fiber Optic CIP[2]
- Gas CIP[3]
- Water CIP[4]

[1] Proposed FY24 Electric CIP https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/electric_cip_8987.pdf
[2] Proposed FY24 Fiber Optic CIP https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/fiberoptics_cip_9000.pdf
[3] Proposed FY24 Gas CIP https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/gas_cip_8997.pdf
[4] Proposed FY24 Water CIP https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/water_cip_8988.pdf

- Wastewater CIP[5]

The entire Utilities Operating budget for FY 2024 can be downloaded and viewed in full from the link below:

- Preliminary Proposed Utilities Operating Budgets for FY 2024 [6].

City Council will not be receiving their copies of the Operating and Capital Budgets until Monday, May 01, 2023. Please refrain from discussing the preliminary proposed budget materials with Council or the public until Tuesday, May 02, 2023.

ATTACHMENTS
Attachment A: UAC – FY24 Budget Presentation

APPROVED By:
Dean Batchelor, Director of Utilities
Staff: Alexandra Harris, Senior Business Analyst
Anna Vuong, Senior Business Analyst
Catherine Elvert, Communications Manager
Dave Yuan, Strategic Business Manager
Jonathan Abendschein, Assistant Director of Utilities

[5] Proposed FY24 Wastewater Collection CIP https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/wastewatercollection_cip_8998.pdf
[6] FY24 Preliminary Utilities Operating Budget https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/utilities_operating_8991.pdf

CITY OF PALO ALTO

Utilities Advisory Commission
Preliminary Proposed FY 2024 Utilities Operating and Capital Budgets

MAY 3, 2023

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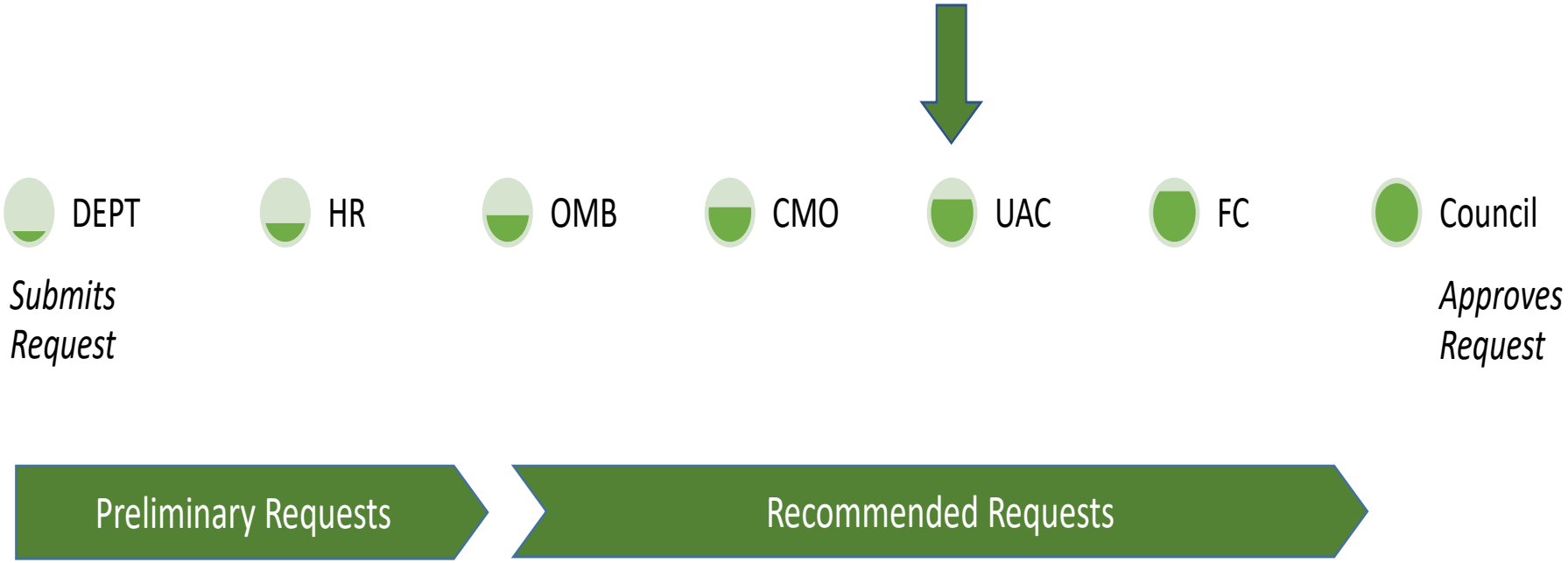
BUDGET REQUEST PROCESS

General review process for staffing, budget, and project changes



PROPOSED NEW PROJECTS

- New Infrastructure projects
  - Electric Grid Modernization - $25M in FY 2024;
    - $200M - $300M total estimated cost
  - Fiber-to-the-Premises (FTTP) - $20M in FY 2024;
    - Dec 19, 2022 Council Approval (ID#14800)
    - $100M - $120M total estimated cost

- Grants update
  - Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) Program
    - Gas Main Replacement Project "GMR25" (application in progress) ~$9M
  - Electric Grid Resilience and Innovation Partnership (GRIP) Program
    - Smart Grid AMI project (application submitted) ~ $11M
    - Grid modernization project (application in progress) ~ $100M – $150M

Projected Change in Residential Median Bill

	FY 2021	FY 2022	FY 2023 (Rates in effect Jan 1, 2023) [1]	FY 2024 (Projected)	FY 2025	FY 2026	FY 2027	FY 2028
Electric Utility	$0.00 0%	$0.00 0%	$22.70 37%	($4.20) -5%	$3.90 5%	$4.10 5%	$4.40 5%	$4.60 5%
Gas Utility 3)	$1.28 2%	$1.60 3%	$2.60 4%	$5.20 8%	$4.90 7%	$3.70 5%	$3.90 5%	$4.10 5%
Wastewater	$0.00 0%	$2.00 3%	$1.30 3%	$4.00 9%	$4.40 9%	$4.80 9%	$4.60 8%	$3.10 5%
Water Utility	$0.00 0%	$0.00 0%	$8.00 9%	$5.90 6%	$4.20 4%	$3.30 3%	$3.40 3%	$5.80 5%
Refuse	$0.00 0%	$0.00 0%	$0.00 0%	$0.00 0%	$1.50 3%	$1.50 3%	$1.60 3%	$1.60 3%
Storm Drain 4)	$0.40 3%	$0.30 3%	$0.60 4%	$0.80 5%	$0.70 4%	$0.70 4%	$0.70 4%	$0.80 4%
Monthly Bill Change 5)	**$1.68** **1%**	**$3.90** **1%**	**$35.20** **11%**	**$11.70** **3%**	**$19.60** **5%**	**$18.10** **5%**	**$18.60** **4%**	**$20.00** **5%**

1) *37% increase includes 4/1/22 hydro rate adjuster (HRA) activation (10%), 7/1/22 5% rate increase, and 1/1/23 HRA increase (19%)*
2) *-5% change includes a 21% increase to base electric rates and removal of the HRA*
3) *Gas utility rates shown exclude gas market price changes. FY 24 bill forecast w/ market price changes is (-13%). Actual rates will vary.*
4) *Storm Drain fees increase by CPI index annually per approved 2017 ballot measure*
5) *Based on an FY 2023 average monthly bill of $369*

CITY OF
PALO ALTO

ELECTRIC

MAY 4, 2022

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ELECTRIC ACCOMPLISHMENTS & INITIATIVES

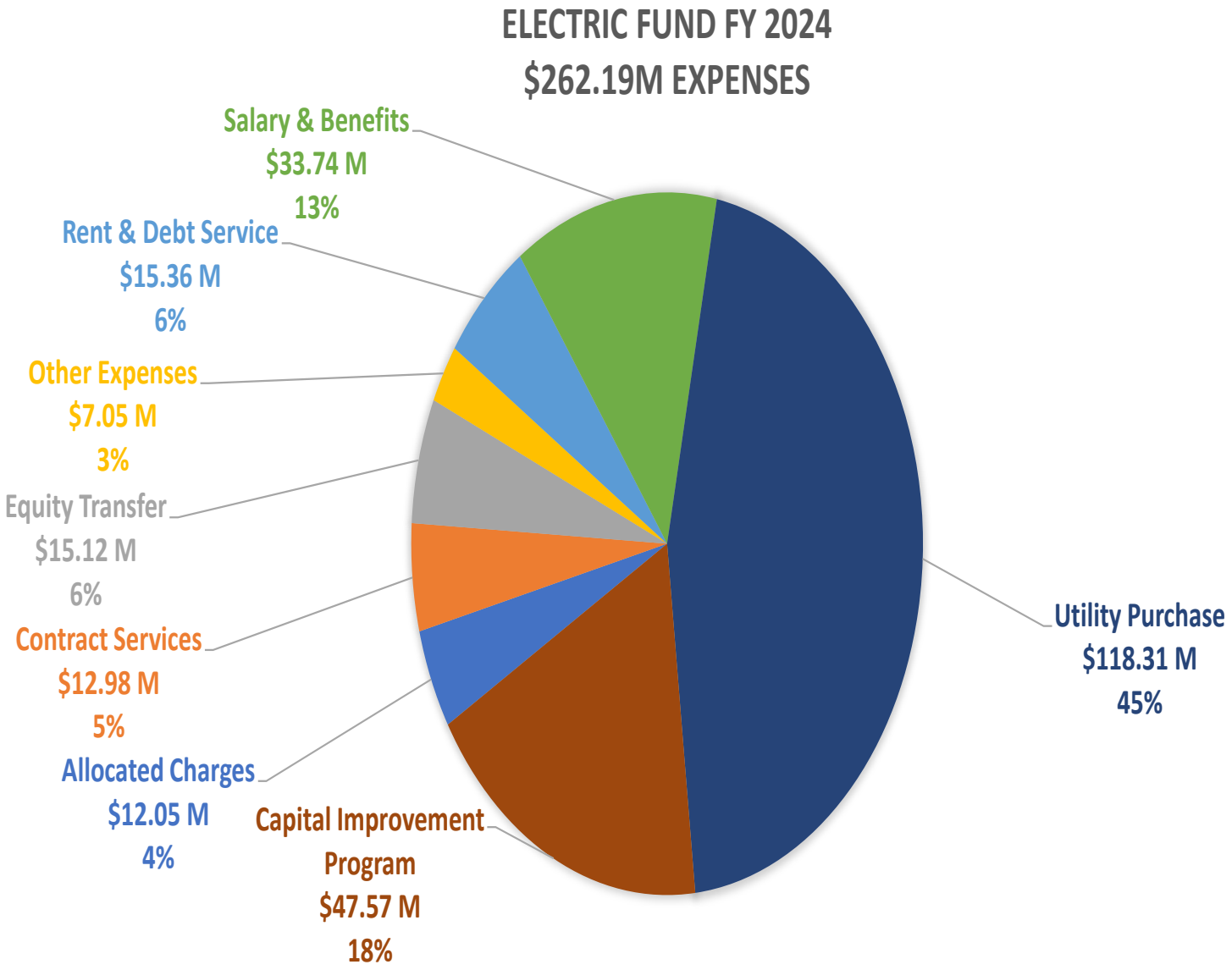
Accomplishments

- Launched the Advanced Heat Pump Water Heater (HPWH) Program
- Implemented on-bill financing program for HPWH
- Installed over 700 electric advanced metering infrastructure (AMI) meters as part of the beta phase of the AMI rollout.
- Completed high-level grid modernization study.
- Construction started for new physical security and lighting at nine electric substations.

Initiatives

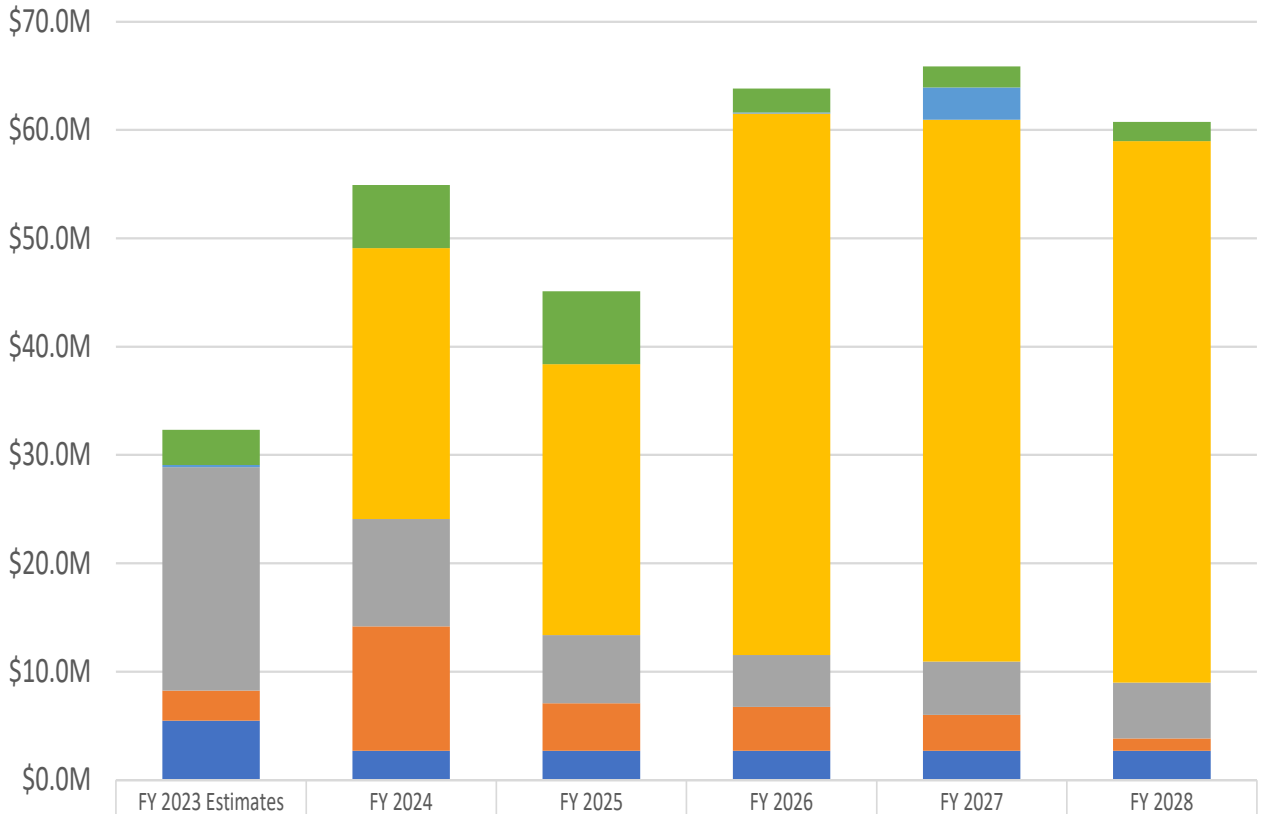
- Apply for Department of Energy's Grid Resilience and Innovation Partnerships (GRIP) grants
- Develop and implement an electric grid modernization plan
- Complete cost of service study
- Launch new outage management system (Go Live June/July 2023)

ELECTRIC PRELIMINARY OPERATING BUDGET EXPENSES



ELECTRIC PRELIMINARY CAPITAL BUDGET EXPENSES

Current Year Estimates & 5-Yr Capital Improvement Plan 2024-28



	FY 2023 Estimates $32.3M Total	FY 2024 $54.9M Total	FY 2025 $45.1M Total	FY 2026 $63.8M Total	FY 2027 $65.9M Total	FY 2028 $60.7M Total
523 - Electric Fund - Underground Districts (Rebuild)	$3.3M	$5.8M	$6.8M	$2.2M	$2.0M	$1.8M
523 - Electric Fund - Underground Districts	$0.2M	$0.0M	$0.0M	$0.1M	$3.0M	$0.0M
523 - Electric Fund - Grid Modernization	$0.0M	$25.0M	$25.0M	$50.0M	$50.0M	$50.0M
523 - Electric Fund - System Improvements	$20.6M	$9.9M	$6.3M	$4.8M	$4.9M	$5.2M
523 - Electric Fund - Substation Improvements	$2.8M	$11.5M	$4.4M	$4.0M	$3.3M	$1.1M
523 - Electric Fund - Customer Connections	$5.5M	$2.7M	$2.7M	$2.7M	$2.7M	$2.7M

ELECTRIC FUND HIGHLIGHTS

- Revenues of $265.0M; increase $79.1M or 43%
  - $30M Retail Sales (21% base increase offset by deactivation of hydroelectric rate adjuster)
  - $25M Debt Financing for Grid Modernization
  - $24M Central Valley Project Settlement
- Expenses of $262.2M; increase $42.5M or 19%
  - $21M Capital Improvement including $12.5M Reappropriated Funds to FY24
    - $3.8M Substation Physical Security; $1.5M Foothills Fire Mitigation; $1.1M Substation Breaker Replacement; $1.0M Coleridge/Cowper/Tennyson 4/12kV Conversion
  - $17M Commodity Purchases

Residential Electric Bill Comparison

Season	Usage (kwh)	Palo Alto	PG&E	Santa Clara
Winter	300	57.74	94.11	39.31
	453 (Median)	94.42	143.32	60.09
	650	143.94	221.07	86.85
	1200	282.18	438.13	161.54
Summer	300	57.74	97.76	39.31
	(Median) 365	72.31	123.41	48.14
	650	143.94	235.88	86.85
	1200	282.18	452.94	161.54

Palo Alto Residential Median is 49% below PG&E

CITY OF
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FIBER

MAY 4, 2022

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FIBER ACCOMPLISHMENTS & INITIATIVES

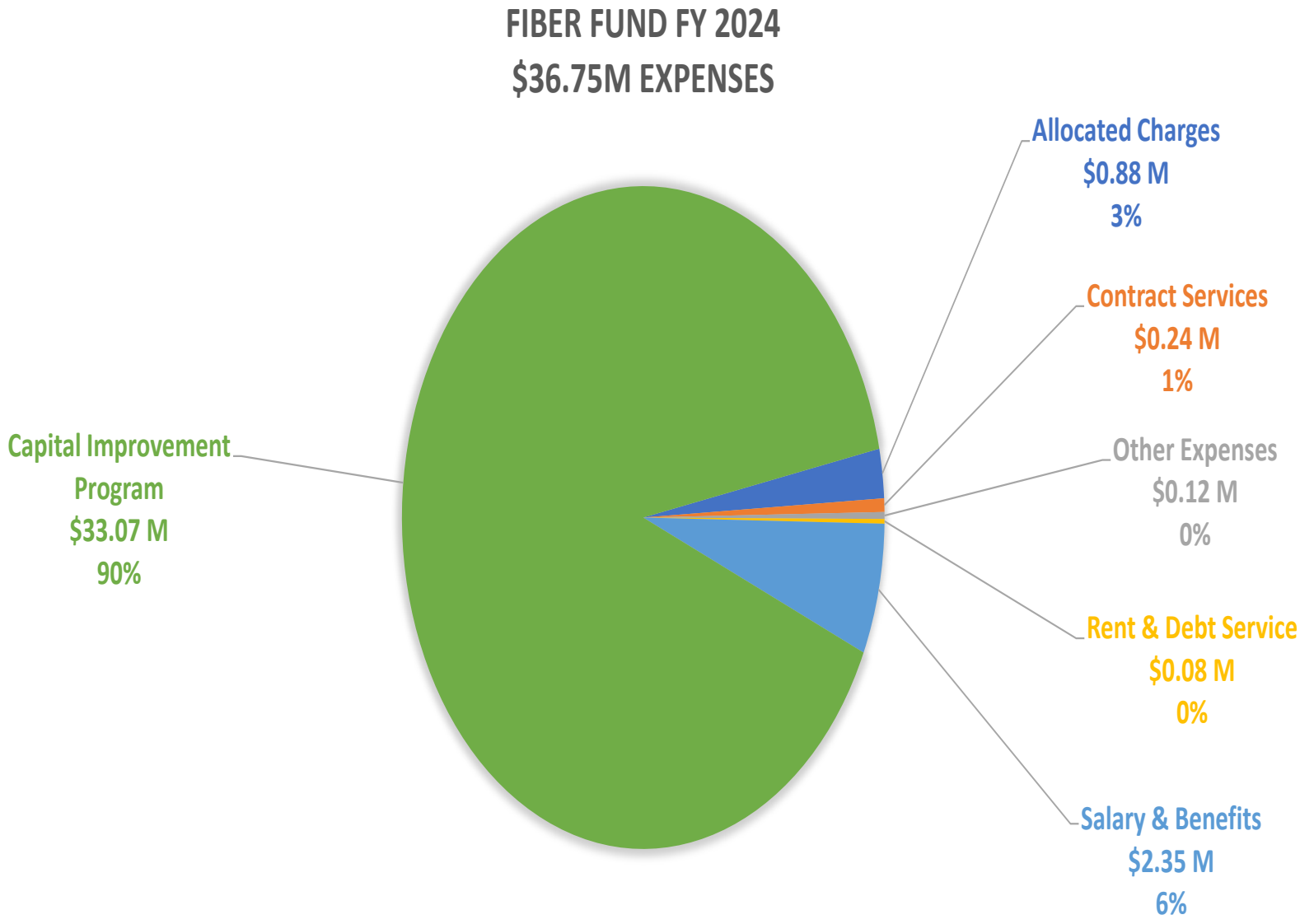
Accomplishments

- Completed detailed engineering design of City's fiber backbone and fiber-to-the-premises network.
- Over 3,600 residents and businesses completed the Palo Alto Fiber internet survey and over 700 residents submitted a $50 deposit.
- Council approved construction of a new fiber backbone for the Electric Utility and a phased buildout of the FTTP network supporting City departments, dark fiber leasing customers, and a new internet service provider (ISP) business.

Initiatives

- Add fiber in the Foothills to improve City communications and community internet
- Identify additional funding sources such as federal and state grants, debt-financing, and cost sharing construction with other CIP projects.
- Issue construction bids and proposals related to fiber backbone expansion and FTTP ~ July 2023

FIBER PRELIMINARY OPERATING BUDGET EXPENSES



FIBER FUND HIGHLIGHTS

- Revenues of $4.6M; increase $0.2M or 5.1%
  - $0.2M Return on Investment
    - Projected investment percentage increasing from 2.2% to 2.4%
- Expenses of $36.7M; increase $32.2M or 707.5%
  - $31M Capital Improvement Program
    - $20M Fiber-to-the-Premises
    - $13M Fiber Backbone Rebuild (estimated total costs $26M)
  - $0.7M Salaries and Benefits
    - 4 new FTEs (Assistant Director, Fiber; Senior Network Engineer; Outside Plant Manager; Sales and Marketing Manager)

FIBER EXPANSION PLAN

- Council Approved Fiber Expansion Plan in Dec 2022
  - Build new fiber backbone for Electric Utility ~ $26M
  - Phase buildout of FTTP – Phase 1 ~ $20M
- City Staff
  - California Environmental Quality Act (CEQA) study
  - Issue and award construction and service RFPs
  - Hire internal staff to execute project and manage vendor contracts
- Magellan Contract Amendment
  - Program Management
  - Network Operations and Technical Support
  - Electrical Make Ready Engineering

CITY OF
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GAS

MAY 4, 2022

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GAS ACCOMPLISHMENTS & INITIATIVES

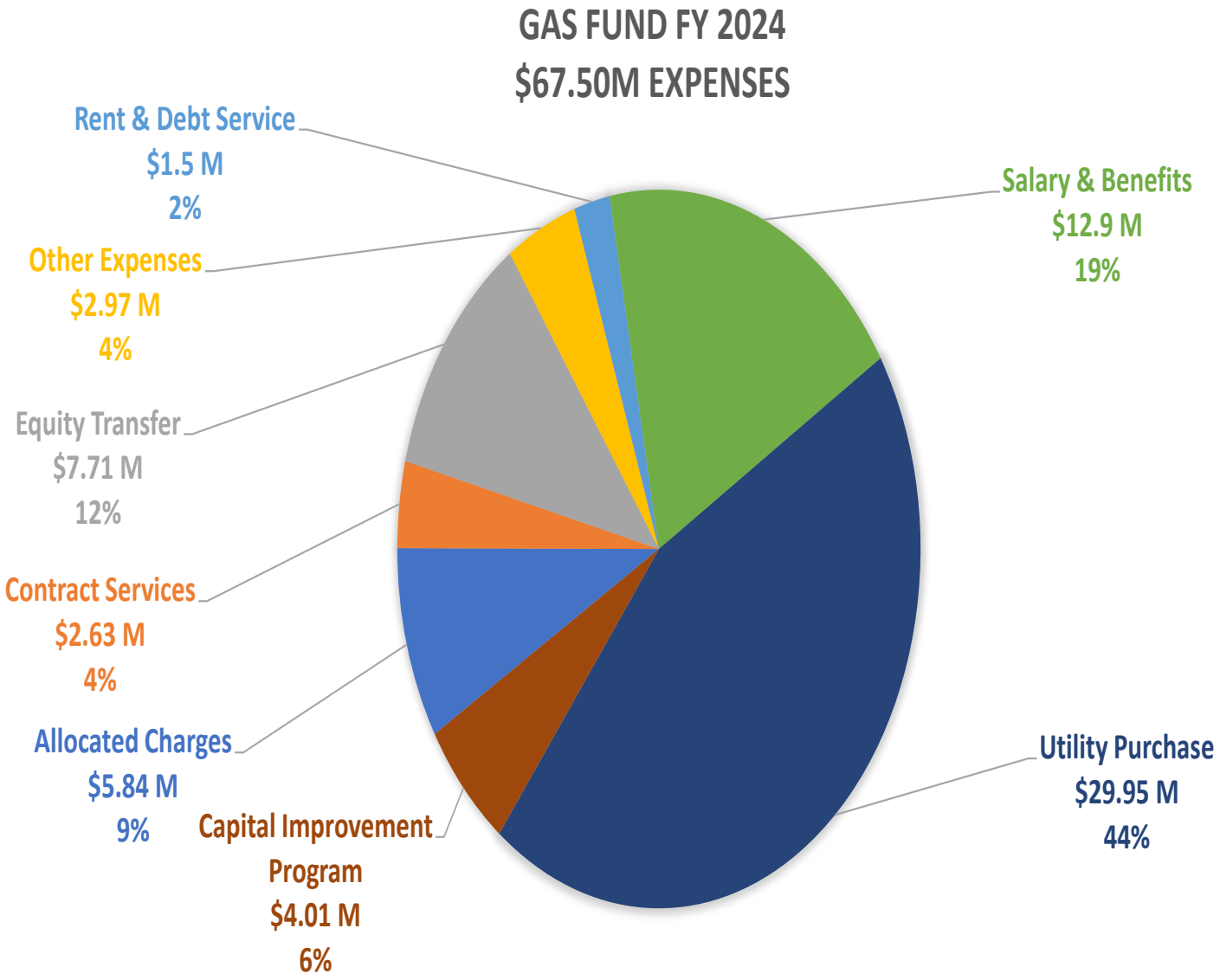
Accomplishments

- Completed inspection of 1,480 sanitary sewer laterals for the presence of a natural gas crossbores in two years, under the Phase III Crossbore Gas Safety Program. Found 1 crossbore.
- Completed construction for Gas Main Replacement 23
- Completed construction of Gas Main Replacement 24A (Stanford Shopping Center)
- Finalized designs of the Gas Main Replacement 24B

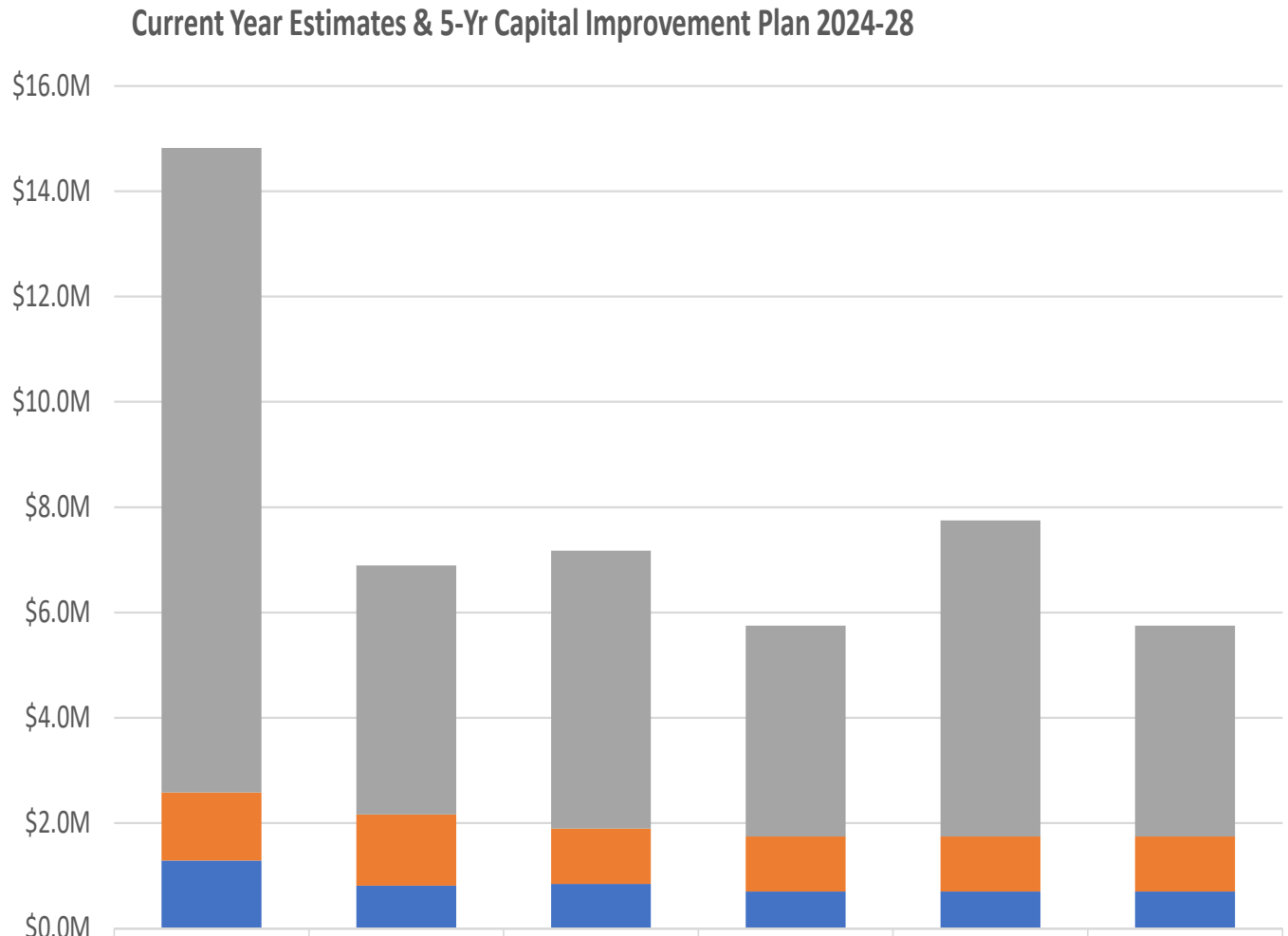
Initiatives

- Gas decommissioning study
- Evaluate natural gas commodity hedging strategies for winter rates
- Apply for Natural Gas Distribution Infrastructure Safety and Modernization grant

GAS PRELIMINARY OPERATING BUDGET EXPENSES



GAS PRELIMINARY CAPITAL BUDGET EXPENSES



	FY 2023 Estimates $14.8M Total	FY 2024 $6.9M Total	FY 2025 $7.2M Total	FY 2026 $5.8M Total	FY 2027 $7.8M Total	FY 2028 $5.8M Total
524 - Gas Fund - Gas Main Replacements	$12.2M	$4.7M	$5.3M	$4.0M	$6.0M	$4.0M
524 - Gas Fund - System Improvements	$1.3M	$1.4M	$1.1M	$1.1M	$1.1M	$1.1M
524 - Gas Fund - Customer Connections	$1.3M	$0.8M	$0.8M	$0.7M	$0.7M	$0.7M

GAS FUND HIGHLIGHTS

- Revenues of $66.9M; increase $19.6M or 43%
  - $19.8M Retail Sales (8% overall rate increase includes 21% distribution rate increase)
    - Fund ongoing capital and operating expenses
    - Replenish reserves
  - Projected bill impact of -13% compared to FY 2023
    - Natural gas commodity price is a monthly pass-through to customers
    - Forecast of -36% decrease of commodity price
- Expenses of $67.5M; increase $6.2M or 10%
  - $9.8M Natural Gas Commodity Purchases
  - ($5.9M) Capital Improvement – alternating Gas Main Replacement CIP year

Residential Gas Bill Comparison

Season	Usage (therms)	Palo Alto	PG&E Zone X	% Difference
Winter (November 2022 Rates)	30	$ 59.45	$ 69.02	(14%)
	(Median) 54	97.77	125.08	(22%)
	80	156.75	197.07	(20%)
	150	329.65	390.88	(16%)
Summer (May 2022 Rates)	10	$ 27.41	19.66	39%
	(Median) 18	40.11	36.90	9%
	30	67.89	65.99	3%
	45	104.80	102.34	2%

Palo Alto median residential bill is about 11% below PG&E's median bill (based on CY 2022 data)

CITY OF
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WASTEWATER

MAY 4, 2022

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WASTEWATER ACCOMPLISHMENTS & INITIATIVES

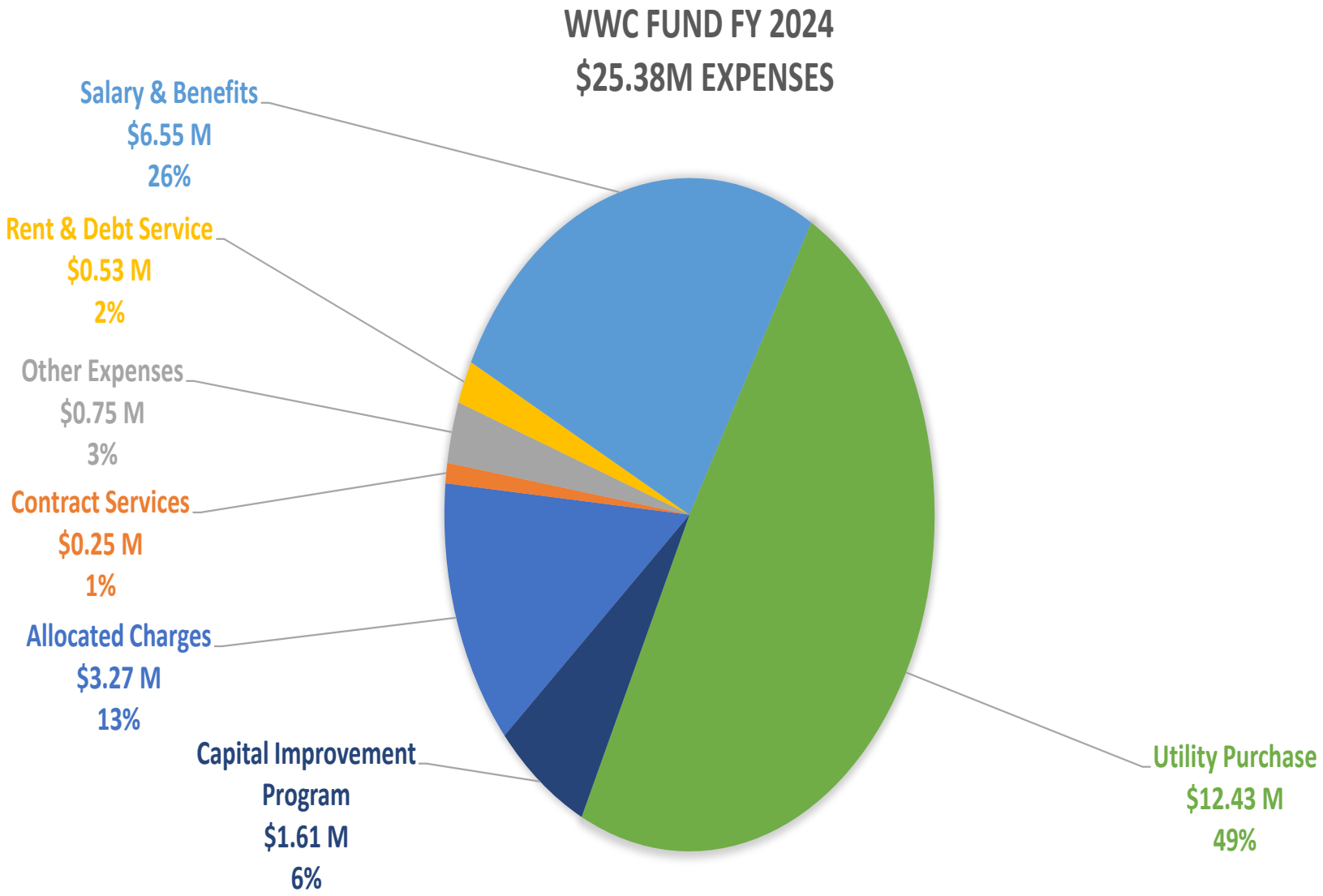
Accomplishments

- Completed design and construction bid for Wastewater Collection Replacement Project 31

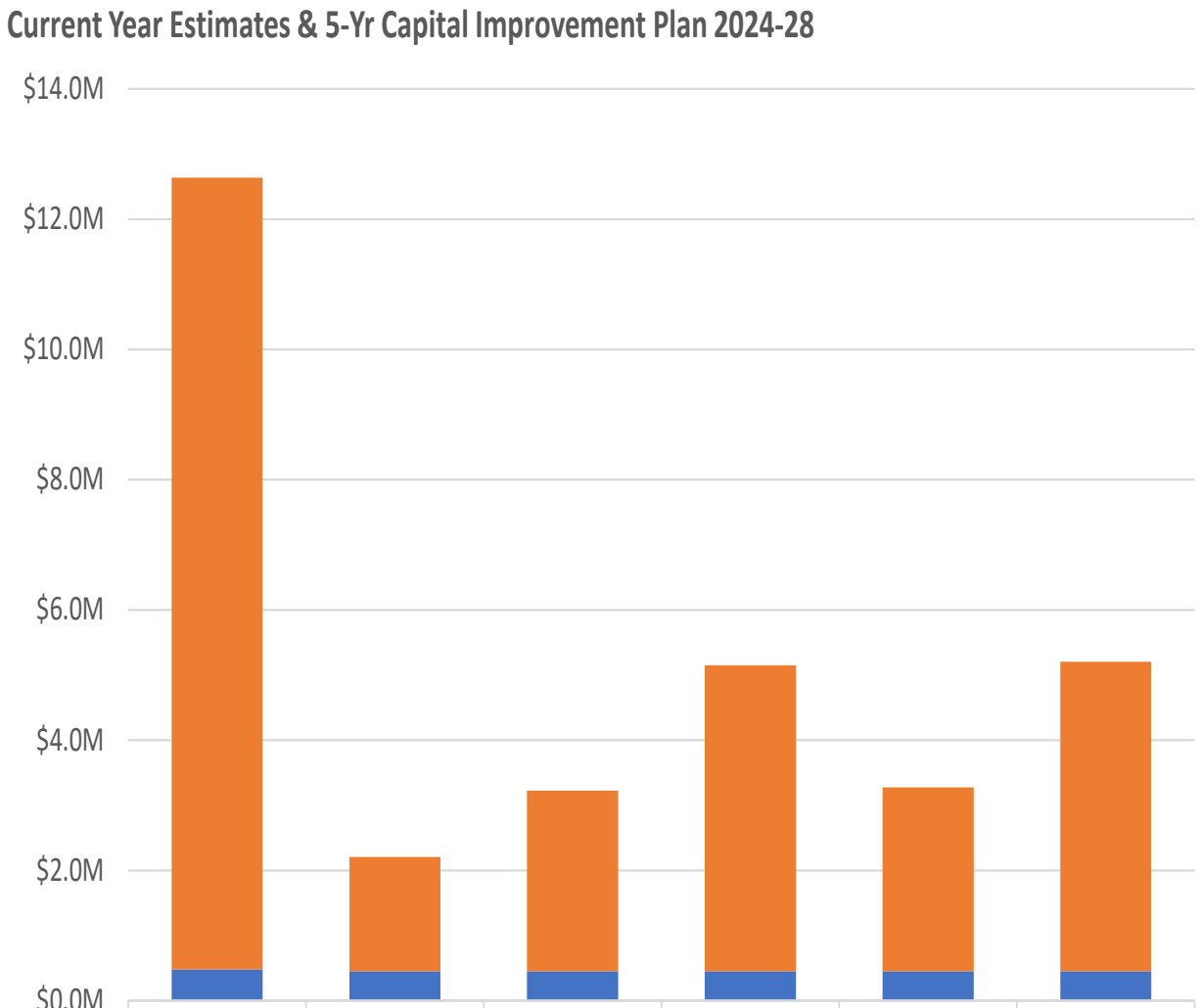
Initiatives

- Sewer Master Plan Study
- Replace overflow monitoring units at 39 manhole locations throughout the City
- Complete Wastewater Collection Replacement Project 30
- Begin construction on Wastewater Collection Replacement Project 31

WASTEWATER PRELIMINARY OPERATING BUDGET EXPENSES



WASTEWATER PRELIMINARY CAPITAL BUDGET EXPENSES



	FY 2023 Estimates $12.6M Total	FY 2024 $2.2M Total	FY 2025 $3.2M Total	FY 2026 $5.2M Total	FY 2027 $3.3M Total	FY 2028 $5.2M Total
527 - Wastewater Collection Fund - System Improvements	$12.2M	$1.8M	$2.8M	$4.7M	$2.8M	$4.8M
527 - Wastewater Collection Fund - Customer Connections	$0.5M	$0.5M	$0.5M	$0.5M	$0.5M	$0.5M

WASTEWATER COLLECTION FUND HIGHLIGHTS

- Revenues of $23.8M; increase $2.1M or 9.6%
  - $2.0M Retail Sales (9% rate increase)
    - Acceleration of Sewer Main Replacement from 1 mile to 2.5 miles beginning in FY 2026 to stay within 100 year life expectancy of main pipes
    - Maintain reserves above minimum guideline of $3.3M (60 days of operations and maintenance and commodity expense)
- Expenses of $25.4M; increase $0.7M or 2.9%
  - $0.6M Treatment Plant Charges
    - Rehabilitation of Regional Water Quality Control Plant ~ $300M

Sewer Bill Comparison

Palo Alto Residential	Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
44.62	106.67	89.28	46.82	50.1	42.05	38.58

Palo Alto Residential Median is 28% below comparison city average

Non-Residential	Palo Alto	Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
Commercial	116.62	144.34	117.74	75.74	156.66	72.23	87.92
Restaurant	696.08	1,216.88	1,128.40	718.48	718.48	288.90	660.80

Palo Alto Commercial Median is 7% above comparison city average

Palo Alto Restaurant Median is 12% below comparison city average

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WATER

MAY 4, 2022

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WATER ACCOMPLISHMENTS & INITIATIVES

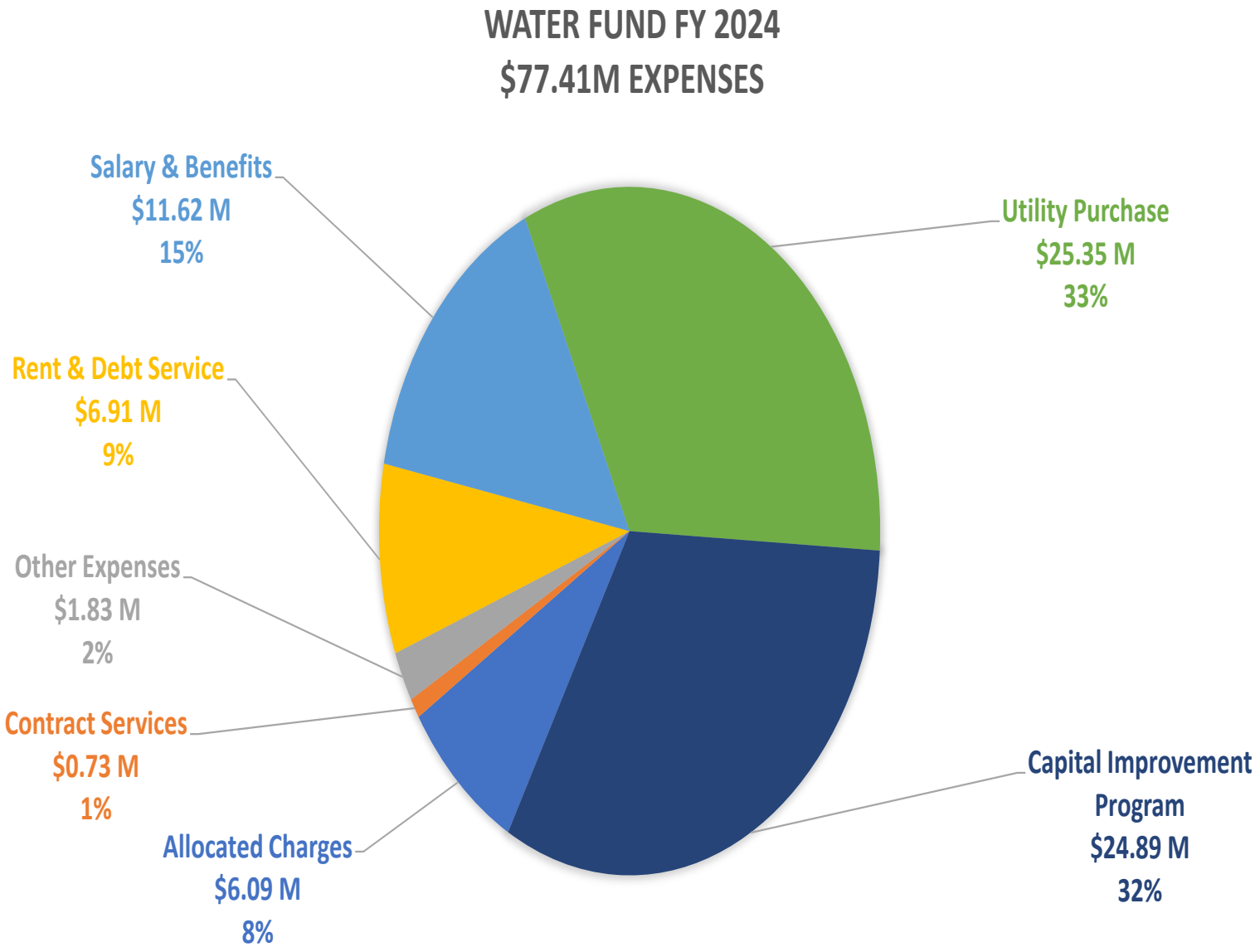
Accomplishments

- Began community engagement and development of OneWater Plan
- Complete cost/benefit analysis of replacement or rehabilitation of Park Reservoir (June 2023)

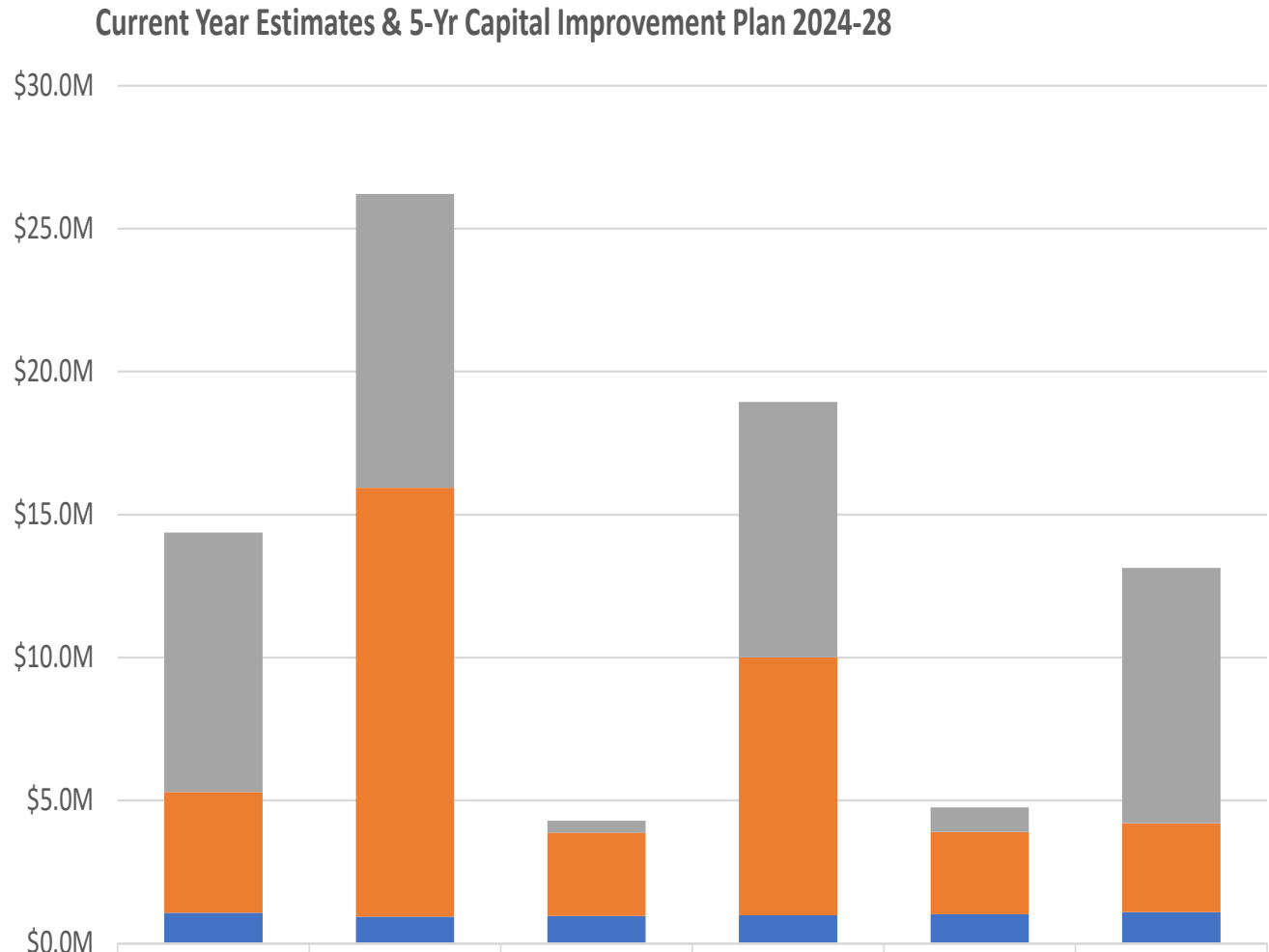
Initiatives

- Start construction for Park Reservoir (capacity of one million gallons)
- Replace overflow monitoring units at 39 manhole locations throughout the City
- Complete construction of Water Main Replacement Project 28

WATER PRELIMINARY OPERATING BUDGET EXPENSES



WATER PRELIMINARY CAPITAL BUDGET EXPENSES

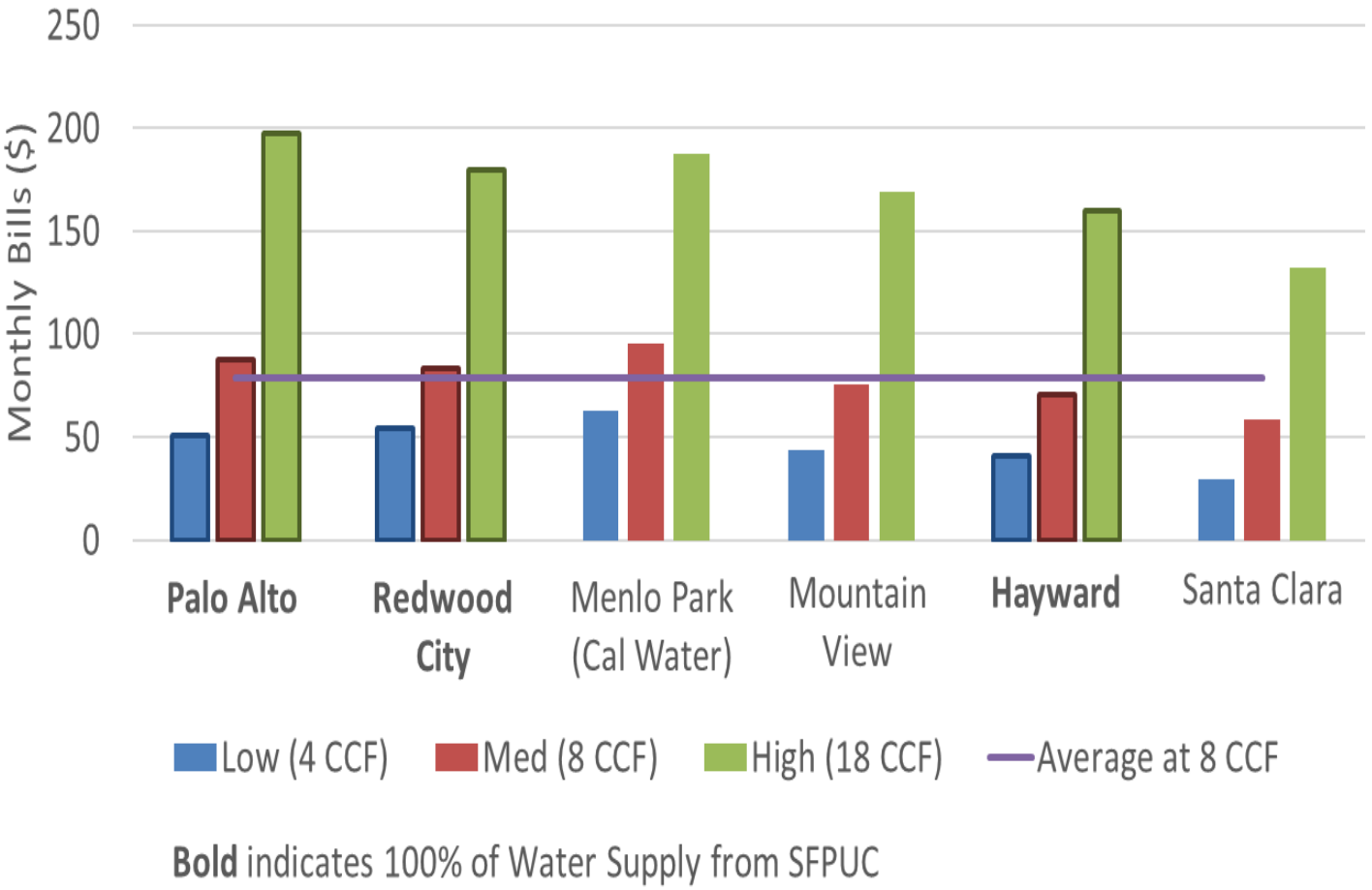


	FY 2023 Estimates $14.4M Total	FY 2024 $26.2M Total	FY 2025 $4.3M Total	FY 2026 $18.9M Total	FY 2027 $4.8M Total	FY 2028 $13.1M Total
522 - Water Fund - Water Main Replacements	$9.1M	$10.3M	$0.4M	$8.9M	$0.9M	$8.9M
522 - Water Fund - System Improvements	$4.2M	$15.0M	$2.9M	$9.0M	$2.9M	$3.1M
522 - Water Fund - Customer Connections	$1.1M	$0.9M	$1.0M	$1.0M	$1.0M	$1.1M

WATER FUND HIGHLIGHTS

- Revenues of $53.6M; increase $3.0M or 6%
  - $2.2M Retail Sales (6%/5% overall rate increase)
    - 11.6% SFPUC commodity rate increase/ revised down to 9.6% as of April 6, 2023
    - 2% distribution rate increase
  - $0.6M Other Revenue
    - Technical budget alignment: Customer Connection and Capacity fees ~ $1.0M
- Expenses of $77.4M; increase $13.1M or 20%
  - $9.4M Capital Improvement Reappropriatons
    - $6.9M Seismic Rehabilitation; $3.3M Water System Improvement (Emergency Generators and Facilities Lighting)
  - $2.0M SFPUC commodity rate increase

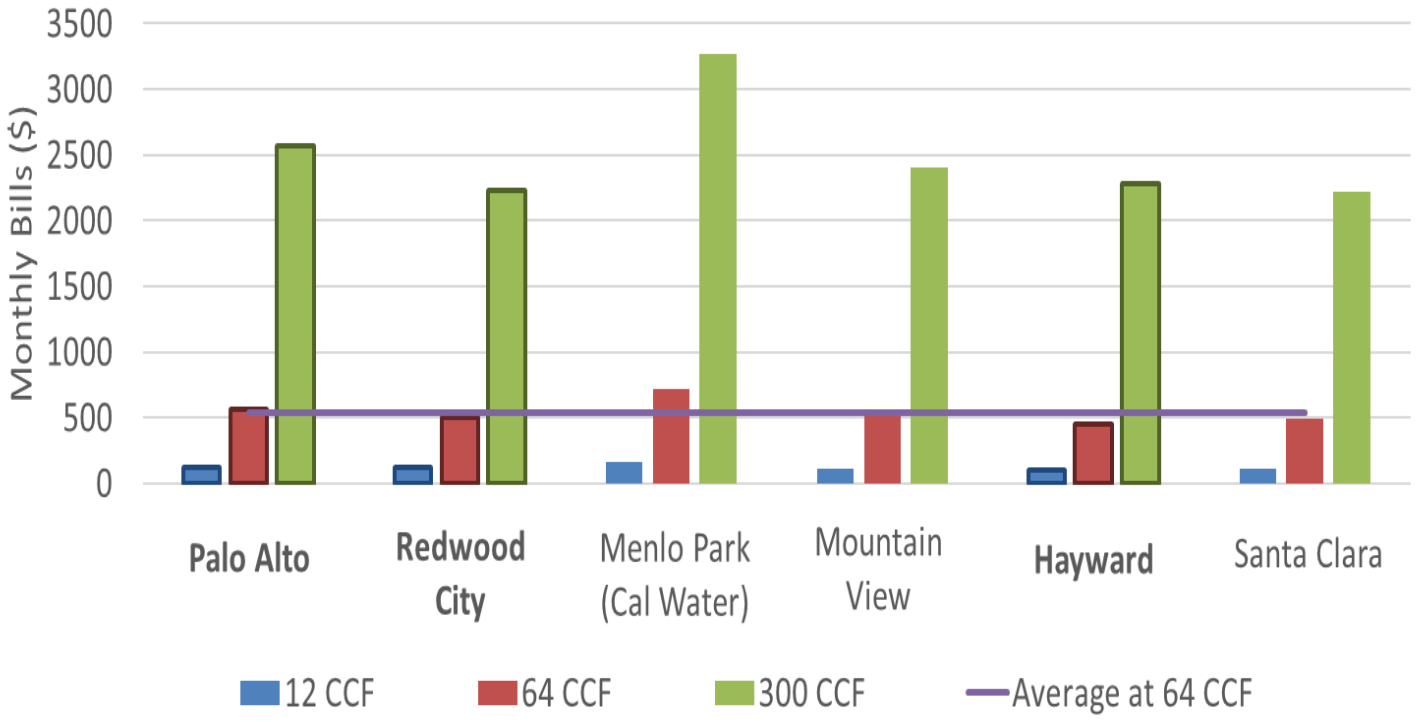
Single-Family Residential Water Bill Comparison



Bold indicates 100% of Water Supply from SFPUC

Palo Alto is 14% above comparison city average

Commercial Water Bill Comparison



Bold indicates 100% of Water Supply from SFPUC

Palo Alto is 5% above comparison city average

CITY OF
PALO ALTO

STAFFING

MAY 4, 2022

www.cityofpaloalto.org

STAFFING - Vacancies and Recruitments

Division	Authorized FTE	Vacancies	Active Recruitments	% Vacancy
Administration	19.5	5	3	26%
Customer Support Services	22	2	2	9%
Electric Engineering	28	8	6	29%
Electric Operations	74	23	13	31%
Resource Management	25	5	2	20%
WGW Engineering	22	4	3	18%
WGW Operations	63	10	5	16%
Grand Total	**253.5**	**57**	**34**	**22%**

STAFFING (continued)

Movement by Calendar Year (CY)

	CY 2022	JAN - MAR 2023
Hires	24	6
Promotions	15	8
Retirements	5	0
Separations	23	8

STAFFING RECRUITMENT AND RETAINMENT STRATEGIES

- Continue benchmark market alignment
- Flexible and Remote Work Schedule – in place
- New Apprentice and Training Programs – ongoing
- Cross Training – ongoing (Meter Reading)
- Succession Planning
- Career Fairs
- Hiring and Retention bonus
- Flexibly Staffed recruiting

Not started

- Employee or Subsidized Housing
- Childcare

PROPOSED STAFFING REQUESTS

FY 2024 STAFFING REQUESTS (Net Change +4.5 regular FTEs and +.04 hourly FTEs)

- Assistant Director, Palo Alto Fiber (+1.0 FTE)
- Manager Information Technology (Sr. Network Engineer/Architect) (+1.0 FTE)
- Manager Utilities Telecommunications (Outside Plant Mgr, Palo Alto Fiber) (+1.0 FTE)
- Manager Utilities Telecommunications (Sales and Marketing Mgr, Palo Alto Fiber) (+1.0 FTE)
- Senior Fiber Market Analyst (+1.0 FTE)
- Utilities Program Assistant II (+0.5 FTE)
- Journey Level Laborer (+0.04 FTE)
- Reclassify Utility System Operator to Senior Utility System Operator (Net 0.0 FTE)
- Meter Reader (-1.0 FTE)

**New Classifications*

STAFF RECOMMENDATION TO UAC FOR APPROVAL

Staff requests that the Utilities Advisory Commission (UAC) recommend that the Council approve proposed FY2024 Utilities Operating Budget.

Staff requests that the Utilities Advisory Commission (UAC) recommend that the Council approve proposed FY2024 Utilities Capital Budget.

CITY OF

PALO ALTO

PROPOSED FY 2024 RATES – RESIDENTIAL BILL IMPACT

Utility	FY 2023 Bill (Rates Effective Jan 1, 2023)	FY 2024 Bill (Projected)	Change	Change %
Electric	$83.09	$78.89	-$4.20	-5%
Gas	$64.86	$70.06	$5.20	8%
Wastewater	$44.62	$48.62	$4.00	9%
Water	$98.46	$104.36	$5.90	6%
Refuse	$50.07	$50.07	$0.00	0%
Storm Drain	$15.98	$16.78	$0.80	5%
Utility User Tax[1]	$12.32	$12.67	$0.35	3%
Total Monthly Bill	**$369.40**	**$381.49**	**$12.04**	**3%**

[1] User Tax is additional 5 percent of electric, gas, and water bill

Utilities Quarterly Update

Second Quarter of Fiscal Year 2023

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Figures

1 Electric Utility

The City's electric utility serves all residential and non-residential electric demands in Palo Alto at a lower cost than PG&E in surrounding communities. Its electric supply portfolio is 100% carbon neutral. The City maintains and operates an electric distribution system and one small natural gas generator but does not operate any transmission lines or any significant generating capacity on its own. Instead, the City belongs to Northern California Power Agency (NCPA) which operates its Calaveras hydroelectric generating plant and provides power scheduling services for its other generating resources. This carbon free power is supplied through power purchase agreements with various generation operators.

1.1 Electricity Supply and Transmission

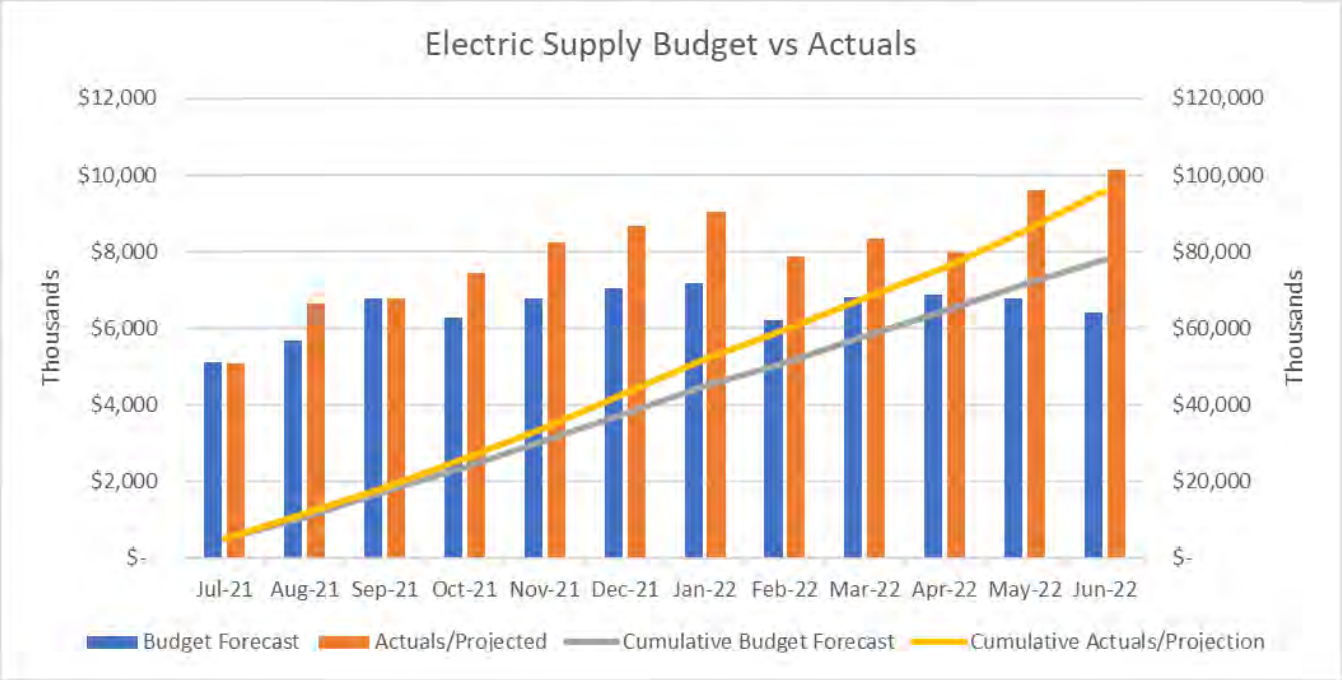
Below is an update on electricity supply and transmission services.

1.1.1 Forecasted Supply Costs

The actual net supply cost for FY 2022 was $95.2 M. This represents a $11.9 M (14%) increase over FY 2021 actuals and $17.3 M (22%) over the FY 2022 Adopted Budget amount, with the increase primarily driven by higher than historical forward energy prices, higher resource adequacy requirement levels and market prices, and much lower than historical average hydro generation levels.

The projected net supply cost for FY 2023 is $106.1 M, which is $22.5 M (27%) greater than the Adopted Budget amount, and $10.9 M higher than the actual net supply cost for FY 2022. This increase in cost relative to the Adopted Budget is due to the same factors noted above that explain the deviation in supply cost for FY 2022.

Figure 1: FY 2022 Financial Plan Supply Cost Forecast vs. Actuals



1.1.2 Hydroelectric Conditions

The City receives power from two hydroelectric projects, the Calaveras project and the Western Base Resource contract for Federal hydropower from the Central Valley Project.[1] The watershed for Western hydropower is primarily in the northern end of California, while the watershed for the Calaveras project is in the Central Sierras.

For water year 2021 to 2022 (October 2021 to September 2022), total precipitation was 63% of average for the Central Sierras watershed and 81% of average for the Northern Sierras watershed—the third straight year of well below average precipitation levels. Total hydropower generation for FY 2021 was 295 GWh, which is 183 GWh (38%) below the long-term average. Total hydropower generation for FY 2022 was 230 GWh, which is 250 GWh (52%) below the long-term average.[2]

However, water year 2022 to 2023 is on track to be one of the best precipitation years in memory, following the record storms across the state in December 2022 and early January 2023. As of February 13th, total precipitation was 153% of average for the Central Sierras and 125% of average for the Northern Sierras, and reservoir levels have returned to near average levels for this time of year. The current hydro forecasts have begun to reflect this

[1] The Calaveras project is a hydropower project located in Calaveras County that is maintained and operated by the Northern California Power Agency on behalf of the City and other project participants. The City is also one of several public entities with contracts with the Western Area Power Administration for "Base Resource" electricity, which is the hydroelectric power available from the Federal Government's Central Valley Project (operated by the Bureau of Reclamation) after accounting for power used for Central Valley Project operations and power delivered to certain "preference" customers.

[2]The long-term average forecast levels for both Western and Calaveras have been revised downward (about 10% each) in recent years to reflect the impact of climate change. These values may need to be revisited again in the coming years.

improved outlook, with total output projected to be 62% of the long-term average level for FY 2023, and 79% of the long-term average level for FY 2024.

Figure 2: Hydro Generation FY 2022 Actuals, FY 2023-24 Projected (GWh)

	FY 2022	FY 2023	FY 2024
Calaveras Generation (GWh)	61	108	129
Western Generation (GWh)	169	189	250
Total Hydro Generation (GWh)	230	297	379
% of Long-term Average Total	48%	62%	79%
Long-term Average Total Hydro (GWh)	481	481	481

1.1.3 REC Exchange Program

Under the REC Exchange Program, which was approved by Council in August 2020 (Staff Report #11556), staff sold a total of 184 GWh worth of in-state renewable energy (for $2.8M), and purchased 428 GWh worth of out-of-state renewable energy credits (RECs) costing $2.2M in CY 2022. The overall net revenue of $0.6M for CY 2022 was significantly lower than projected due to a narrowing of the in-state versus out-of-state REC price spread; this amount will be directed entirely towards the funding of local decarbonization efforts.

Net revenue for the REC Exchange program is projected to be significantly greater in 2023 than 2022, due to a sharp increase in in-state (Bucket 1) renewable energy prices over the past several months. So far for 2023, staff has contracted to sell 160 GWh worth of in-state renewable energy (for $4.0M) and purchased 200 GWh worth of out-of-state renewable energy credits (RECs) costing $1.2M. An additional round of REC Exchange transactions is planned for later this year, which should add to this initial $2.8M in net revenue.

1.1.4 Renewable Energy Procurement

Staff has been working with staff from the Public Works Department, the City of Santa Clara, and NCPA to negotiate a new power purchase agreement (PPA) to buy a small amount of electrical output (about 3 GWh/year in total) from an anaerobic digester facility, in order to satisfy the requirements of Senate Bill (SB) 1383. Similar to the Calpine Geothermal PPA, NCPA would be the counterparty to the PPA with the anaerobic digester facility, and the Cities of Palo Alto and Santa Clara would each receive a share of the output via Third Phase Agreements with NCPA. Staff plans to return to the UAC in the coming months to seek a recommendation to take these agreements to the City Council for approval.

1.2 Capital Improvement Plan Status

The following capital projects are currently in progress or have been recently completed:

- **EL-17001 (East Meadow Circles 4/12kV Conversion):** This project is scheduled to be completed in several phases. Phase 1 design is complete. Phase 2 & 3 (of 6) engineering design is currently in progress.
- **EL-11003 (Rebuild Underground 15):** This project is in the preliminary stages of engineering design. Project is delayed due to staffing shortage. This project has been put on hold due to other priorities.
- **EL-10006 (Rebuild Underground 24):** This project is in construction phase and scheduled to be completed in Dec 2023.
- **EL-16000 (Rebuild Underground 26):** This project is in the preliminary stages of engineering design. Project is delayed due to staffing shortage.

- **EL-19004 (Wood Pole Replacement):** 34 poles have been replaced since July 2022. CPAU staff and contract consultants are continuously working on pole replacement designs for construction although the output is delayed this year because of staffing shortages.
- **EL-16003 (Substation Physical Security):** This project is scheduled to be completed in several phases. Substation Security lighting contract was awarded in June 2022. The installation will be completed over a 2-year period. Construction is currently in-progress.
- **EL-17002 (Substation 60kV Breaker Replacement):** This project is in the preliminary stages of engineering design. Project is delayed due to staffing shortage.
- **EL-21001 (Foothills Rebuild):** This project will rebuild the approximately 11 miles of overhead line in Foothills Park, as necessary to mitigate the possibility of wildfire due to overhead electric lines. Staff has completed 7,000 feet of substructure work and design which will eliminate the corresponding 26 poles. Substructure for Phase 1 was completed in Spring 2022 and the substructure for Phase 2 is currently in progress. Phases 3 and 4 are currently in design phase.
- **EL-14005 (Reconfigure Quarry Feeders):** Staff completed the design phase this year. Construction has been Completed.
- **EL-02011 (Electric Utility Geographic Information System (GIS)):** The project scope includes maintenance/technical support of the existing GIS system and implementation of the new GIS platform (ESRI). Staff has completed the ESRI ArcGIS Portal, which is a web service for staff to view data and are currently working on final phase of the electric data migration to ESRI's Utility Network model.
- **EL-16002 (Capacitor Bank Installation):** This project is a multi-year effort for the procurement, design and installation of capacitor banks at several substation. Hanson Way and Park Blvd substation work is complete; Two capacitor banks at Hanover remain to be completed and will be completed in December 2023. The capacitor banks at Maybell have been installed and will be commissioned in the coming months.

1.3 Rate and Bill Comparisons

For the median consumption level, the annual residential electric bill based on current rates is $1000, about 37% lower than the annual bill for a PG&E customer with the same consumption and approximately 42% higher than the annual bill for a City of Santa Clara customer. The bill calculations for PG&E customers are based on PG&E Climate Zone X, which includes most surrounding comparison communities.

The figure below presents sample median residential bills for Palo Alto, PG&E, and the City of Santa Clara (Silicon Valley Power) for several usage levels. Rates used to calculate the monthly bills shown below were in effect as of January 1, 2023. The rates for Palo Alto include the current Electric Hydro Rate Adjuster (E-HRA) of $0.048/kWh to mitigate the high power costs cited above.

In an application submitted December 2022, PG&E has requested that the California Public Utilities Commission (CPUC) approve rate increases that would increase the PG&E residential bill by 19% in 2023. A decision is anticipated by the CPUC by June 2023. Also, over the next several years low usage customers in PG&E territory are expected to continue to see higher percentage rate increases than high usage customers as PG&E compresses its tiers from the highly exaggerated levels that have been in place since the energy crisis. This is likely to make the bill for the median Palo Alto consumer look even more favorable compared to most PG&E customers. Even with the compressed tiers, bills for high usage Palo Alto consumers are projected to remain substantially lower than the bills for high usage PG&E customers.

Figure 3: Residential Monthly Electric Bill Comparison (Effective 1/1/2023, $/mo.)

Season	Usage (kwh)	Palo Alto	PG&E	Santa Clara
Winter	300	57.74	94.11	42.45
	(Median) 453	94.42	143.32	64.89
	650	143.94	221.07	93.78
	1200	282.18	438.13	174.44
Summer	300	57.74	94.11	42.45
	(Median) 365	72.31	123.41	51.98
	650	121.19	233.16	86.65
	1200	282.18	438.13	174.44

1.4 Reliability

CPAU tracks electric outages. A summary chart of these outages can be found below.

Figure 4: Electric Outage Reliability, FY 2022 to FY 2023-Q2

Outage Reliability	FY 2022			
	Q1	Q2	Q3	Q4
System Average Interruption Duration Index (SAIDI)[3]	1.71	7.32	6.72	1.35
System Average Interruption Frequency Index (SAIFI)[4]	.01	.02	.16	.02
Customer Average Interruption Duration Index (CAIDI)[5]	180.18	323.65	41.48	88.70

Outage Reliability	FY 2023	
	Q1	Q2
System Average Interruption Duration Index (SAIDI)[3]	81.69	7.38
System Average Interruption Frequency Index (SAIFI)[4]	0.61	.04
Customer Average Interruption Duration Index (CAIDI)[5]	134.77	190.12

1.5 Financial Health

Below is a summary of the financial position for the electric utility.

1.5.1 Sales Forecasts vs. Actuals

Actual electric sales volumes through Q2 of FY 2023 were about 2% lower than forecasted, while actual sales revenues were about 3% higher than budgeted in the FY 2023 Financial Plan. The higher sales revenues were due

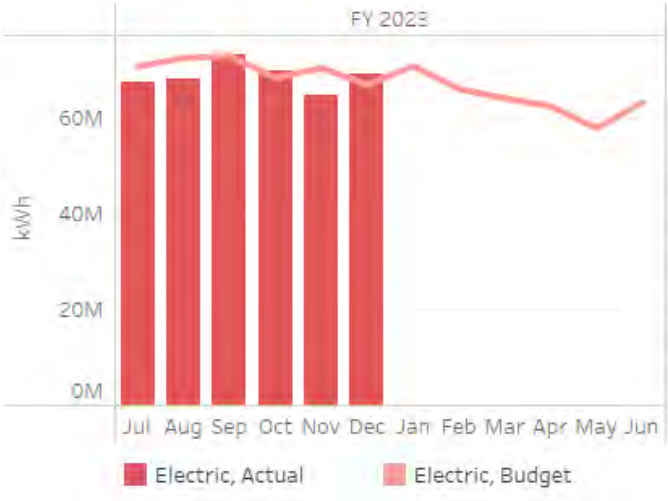
[3] System Average Interruption Duration Index (SAIDI) - Measure of the total duration of an interruption for the average customer during a given time frame. SAIDI = (Sum of Customer Minutes Interrupted) / (Total Customers Served)

[4] System Average Interruption Frequency Index (SAIFI) - the average number of times a customer will experience an interruption during a given time frame. SAIFI = (Total Customers Interrupted) / (Total Customers Served)

[5] Customer Average Interruption Duration Index (CAIDI) - the average time to restore service. CAIDI = (Sum of Customer Minutes Interrupted) / (Total Customers Interrupted)

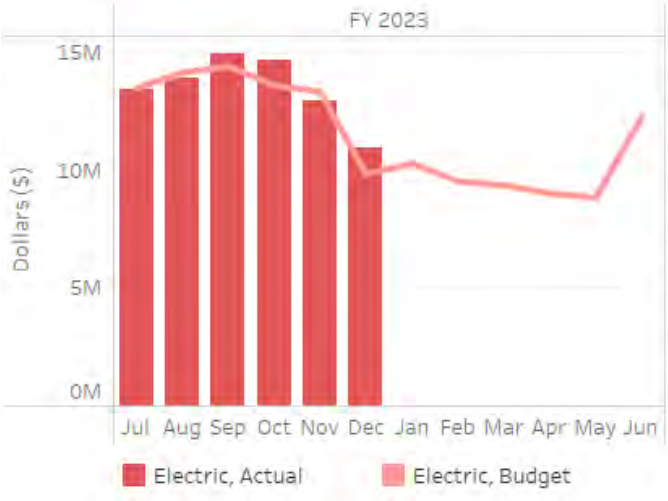
to additional revenue from the Electric Hydro Rate Adjuster (E-HRA) rate, which was implemented effective on April 1, 2022.

Figure 5: Electric Sales Volume (kWh), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	70,843,075	67,532,107	-3,310,968	-4.7%
Aug	72,647,339	68,059,406	-4,587,933	-6.3%
Sep	73,040,074	73,385,605	345,531	0.5%
Oct	68,469,891	70,026,235	1,556,344	2.3%
Nov	70,512,009	64,864,235	-5,647,774	-8.0%
Dec	67,009,286	69,288,102	2,278,816	3.4%
Jan	70,935,370			
Feb	66,143,772			
Mar	64,173,286			
Apr	62,524,419			
May	57,946,331			
Jun	63,400,963			

Figure 6: Electric Sales Revenue ($), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	13,513,230	13,477,951	-35,279	-0.3%
Aug	14,158,194	13,922,271	-235,923	-1.7%
Sep	14,441,943	14,974,332	532,389	3.7%
Oct	13,625,567	14,699,080	1,073,513	7.9%
Nov	13,352,666	12,967,497	-385,169	-2.9%
Dec	9,853,529	10,944,386	1,090,857	11.1%
Jan	10,311,382			
Feb	9,534,373			
Mar	9,385,476			
Apr	9,031,965			
May	8,856,182			
Jun	12,309,221			

Note: The electric Q1 revenues in the Utilities Quarterly FY 2023 Q1 report were incorrect. This report contains the corrected Q1 revenue numbers.

1.5.2 Financial Position

The Electric Operations Reserves were at the minimum guideline level at the end of FY 2022 and are expected to drop below minimum in FY 2023, given higher than budgeted purchase costs resulting from low hydro conditions (necessitating more expensive market purchases) as well as increasing transmission costs. City Council activated the E-HRA in April 2022 to help mitigate these rising costs. Over the summer of 2022, market prices began increasing over the level assumed in the E-HRA and Council again increased the E-HRA in December 2022 to bring revenues in line with costs.

Supply purchase costs for the first half of FY 2023 were roughly 36% over budget. As a result of the multi-year drought, the City's hydro generation resources produced well below average energy, forcing the utility to

purchase replacement market power. Market prices in Q1 of FY 2023 were roughly 165% of the previous three year average leading to much higher supply costs. In late November and through December, natural gas prices skyrocketed and were the primary driver for higher electricity prices, which were 457% higher than the prior three year average for the month of December. Total supply costs through December 2022 were $58.2 million vs a budgeted amount of $42.8 million, for a total variance of $15.4 million over budget.

Through the first two quarters of FY 2023, sales and revenues tracked close to budget, but purchase cost increases continue to put pressure on reserves. Overall sales continue to be at levels seen during the height of COVID, with sales to the commercial sector not recovering appreciably as COVID restrictions have eased. This lower sales profile, along with projected new capital projects for electrification, may put additional pressure on FY 2024 rates and beyond. Staff will provide financial forecast projections in March 2023.

2 Gas Utility

The City's gas utility serves all residential and non-residential gas demand in Palo Alto. The City maintains and operates a system of low-pressure gas lines for delivering gas but does not operate any transmission lines. Costs for the gas utility are split approximately two thirds for the operation, maintenance and one third for the cost of the gas commodity, PG&E gas transmission, compliance with the State's Cap and Trade Program and the City's Carbon Neutral Gas Program.

2.1 Gas Supply and Transmission

The gas market experienced substantial price increases in December 2022 and January 2023. The gas commodity monthly price at the PG&E Citygate hub was $14.1/mmbtu in December, and it skyrocketed to $49.5/mmbtu in January. Gas market prices rose dramatically across the western United States due to a confluence of factors, including: (a) the historically cold weather in this region in December, (b) unusually low gas storage levels across the region, (c) constraints on the availability of natural gas supplies flowing into California, and (d) an increased reliance on natural gas in the electric power sector as a result of the ongoing drought's impact on hydroelectric supplies. The monthly price decreased to $12.5/mmbtu in February.

The extreme market conditions this winter impacted most utilities throughout the Pacific and Rocky Mountain regions of the United States and were not unique to Palo Alto. Palo Alto's Mayor Lydia Kou sent a letter to Governor Newsom in support of the request for a federal investigation of high natural gas prices. From December 2022 to February 2023, our communications team utilized various channels to inform our customers about high gas prices and resources to help customers with higher than anticipated bills, and to promote gas conservation and home electrification. These channels included publishing articles on our city website, sending email newsletters/bill inserts, featuring an opinion column in Palo Alto Online, and utilizing social media channels.

Gas Commodity Cap Increase

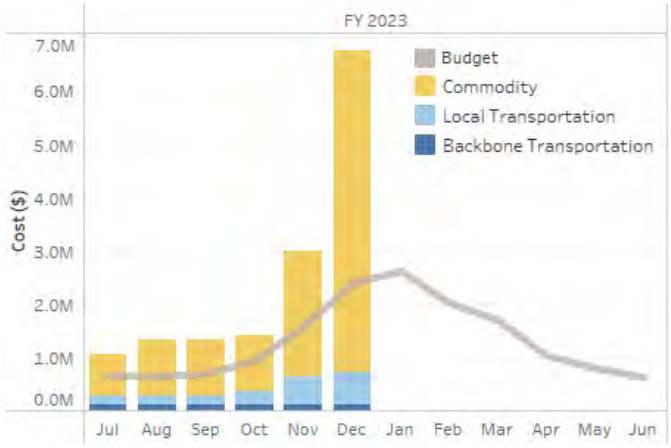
In early December, staff noticed the trend of rapidly increasing gas prices and suspected that the monthly market index price might surpass the gas commodity price cap of $2/therm. Staff recommended and the Council passed Resolution #10090, which doubled the gas commodity price cap to $4/therm, effective January 1, 2023. However, the actual January 2023 gas market commodity monthly price was approximately $0.95/therm higher than the updated price cap. Therefore, the gas utility will not be able to fully recover the pass-through rates from customers, which will have a negative impact on gas reserves. The figure below illustrates the actual and projected Palo Alto gas commodity rates and the Citygate price settled in January 2023. It is expected that the projected commodity rates beyond February 2023 will return to levels below $1/therm.

Figure 7: Palo Alto Gas Commodity Rates, Commodity Rate Caps, and Citygate Actual Prices

2.1.1 Actual and Forecasted Supply Costs

Actual gas demand through Q2 of FY 2023 was about 3% lower than forecasted, while actual supply and transportation costs were about 114% higher than budgeted in the FY 2023 Financial Plan. Gas commodity prices were much higher than predicted in the FY 2023 financial plan due to reasons mentioned in section 2.1 above.

Figure 8: Gas Supply Costs ($), Actual vs Budget, up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	667,541	1,039,946	372,404	56%
Aug	659,409	1,332,201	672,791	102%
Sep	696,972	1,348,782	651,810	94%
Oct	949,560	1,407,786	458,226	48%
Nov	1,581,034	2,992,590	1,411,556	89%
Dec	2,387,025	6,750,434	4,363,408	183%
Jan	2,638,627			
Feb	2,036,749			
Mar	1,712,571			
Apr	1,051,643			
May	812,920			
Jun	638,236			

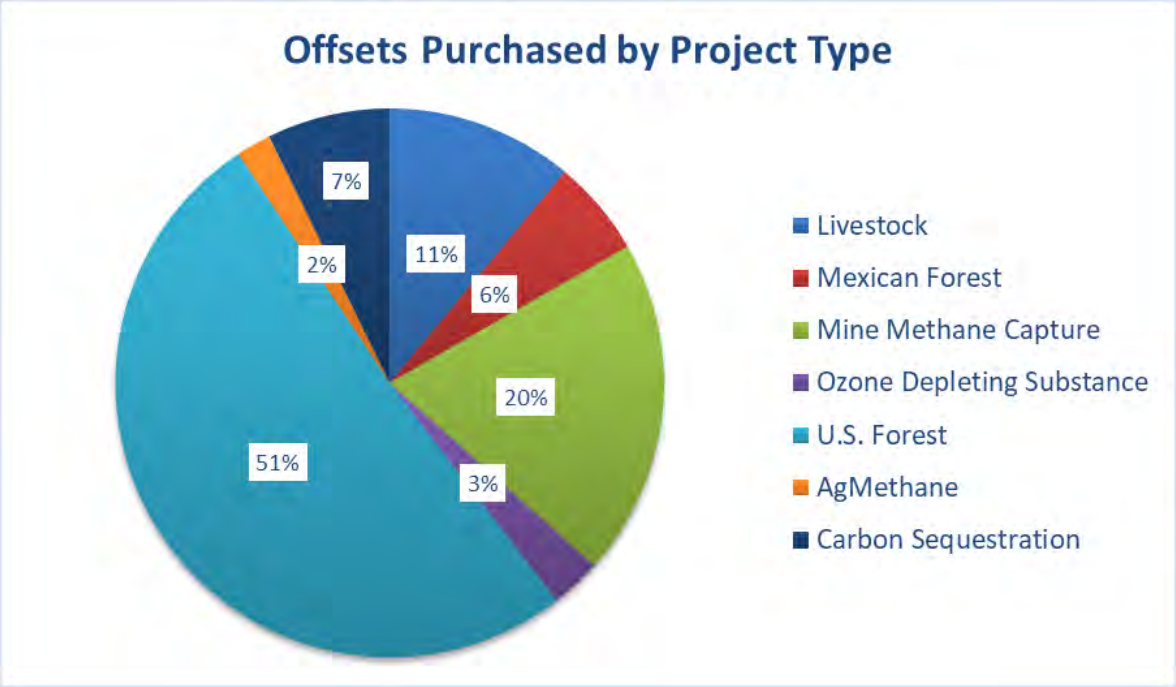
2.1.2 Carbon Neutral Gas Program

In December 2020, Council adopted Resolution #9930 maintaining the Carbon Neutral Natural Gas Plan to achieve carbon neutrality for the gas supply portfolio using high-quality carbon offsets with a cost cap of $19 per ton CO_2e.

Offsets are purchased to neutralize emissions equal to those caused by natural gas usage in Palo Alto. Staff purchased 60,000 carbon offsets for FY 2022 in January 2022 from a mixture of forestry and livestock projects at an average purchase price of $12.26 per metric ton, nearly double the price of historical average transaction prices. Staff purchased an additional 60,000 carbon offsets in June 2022 at an average price of $14.51 per ton CO_2e. As a result of the higher offset purchase costs, staff has updated the billing charge for offsets from $0.04/therm to $0.07/therm. The average purchase price of offsets purchased for the program is $7.66 per ton CO_2e. The figure below shows the composition of offset purchases. Staff is evaluating a process change to expedite

the approval of new Verified Emission Reduction (carbon offset) counterparties and has delayed its regular winter purchase while staff assesses the process change. Staff will issue an RFP to purchase offsets before the end of FY 2023.

Figure 9: Offset Portfolio Composition



The following table provides a description of the projects.

Figure 10: Offset Project Descriptions

Project Name	Project Type	Description
Grotegut Dairy	Livestock	Grotegut Dairy is a 3,900 milk-cow operation in Newton, Wisconsin with a methane capture system.
Green Trees	U.S. Forest	GreenTrees Advanced Carbon Restored Ecosystem is reforestation of agricultural lands into native hardwood forest in Mississippi, Louisiana, Arkansas, and Illinois
San Juan Lachao	Mexican Forest	Protection of forests located in High Biological Value Zones which contain flora and fauna listed in the Mexican Endangered Species List and the International Union for Conservation of Nature's Red List of Threatened Species. Project in San juan Lachao near Palo Alto's Sister City of Oaxaca.
Blandin Forest	U.S. Forest	Blandin Native American Hardwoods Conservation and Carbon Sequestration project in Minnesota.
Pocosin+	U.S. Forest	These projects are all forested land that will not be disturbed by human development. Without this protection, the forests would be converted to grow wheat or corn. Forest conservation plays a vital role in protecting freshwater systems like lakes. The forests around the lakes act as natural water filters and purify the water for all who use it. The projects also support healthy populations of red wolf, bald eagle, black bear, and various bird species.
Refex ODS	Ozone Depleting Substance	The RemTec facility in Bowling Green, Ohio uses an argon arc plasma destruction device to achieve 99.99 percent removal. The majority of refrigerants originated in California, and all were sourced within the United States. The RemTec facility uses an argon arc plasma destruction device to achieve the required destruction and removal efficiency of 99.99 percent. The majority of ODS refrigerants originated in California, and all were sourced within the United States.
Methane Capture	Mine Methane Capture	This project is the first of its kind. Peabody Natural Gas, LLC removed methane from the North Antelope Rochelle Coal Mine before mining. The methane was compressed and transported to a natural gas pipeline and distributed to a national gas grid for use as fuel. Before implementation of the project, all the methane was vented to the atmosphere.
Virginia Conservation Forestry Program	U.S. Forest	The Virginia Conservation Forestry Program - Clifton Farm and Rich Mountain is a 9000+ acre improved forest management project in which the timber and carbon ownership and management rights have been transferred to The Nature Conservancy's Conservation Forestry Program. The program manages for multiple goals to include: Water quality protection, habitat diversity, high value forest products, and carbon sequestration. Co-benefits: Biodiversity, Watershed Protection, Climate Resilience, and Connectivity
Riverview Farm Anaerobic Digester	Livestock	Riverview is a carbon offset project generating emission reductions thought the capture and destruction of methane at a dairy farm in Minnesota. Under the baseline, manure managed in open lagoons led to the fugitive emission of methane to the atmosphere. In the project scenario, this methane is captured by an anaerobic digester and destroyed on site in the production of electricity. Co-benefits include job creation and the improvement of local air and water quality.
Big River / Salmon Creek Forests IFM	U.S. Forest	The Big River and Salmon Creek Forests are located in Mendocino County, CA and cover 16,000 acres of redwood and Douglas-fir forest. This project is a conservation-based forest management project. Co-benefits include the creation of 140 jobs, protection of 37 miles of streams, and improved water quality for local fish and bird species.

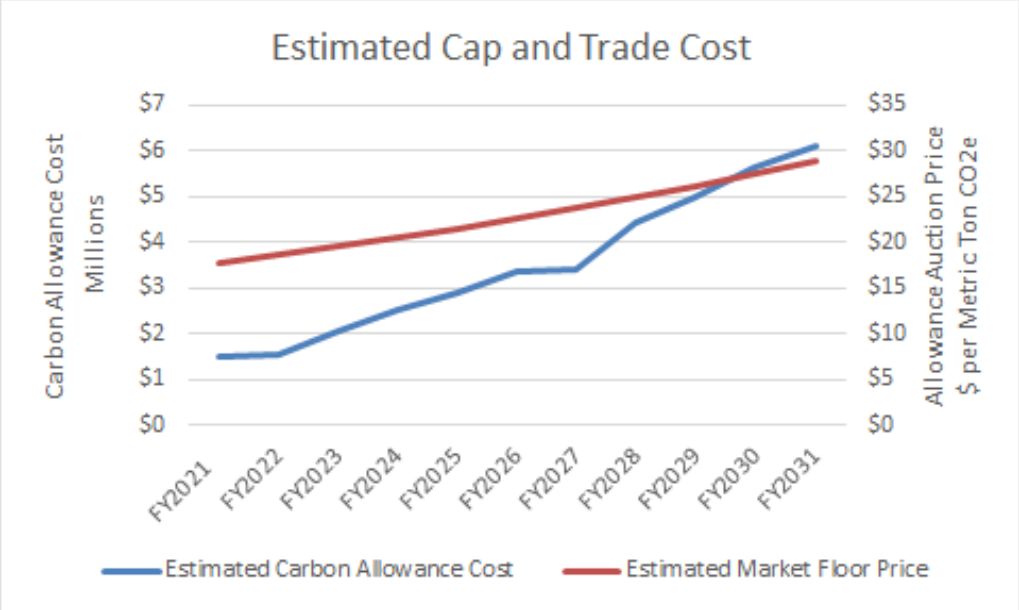
2.1.3 Cap and Trade Program

The gas utility has been regulated under California's greenhouse house (GHG) regulations since January 2015 with a GHG emissions cap that declines over time. The gas utility receives carbon allowances equal to the emissions allowed under the cap and is required to auction off a portion of the allowances (55% in 2022, increasing by 5% annually) through the state Cap and Trade Program. To meet its annual GHG compliance obligation, the City must purchase allowances based on actual gas use.

The auction floor price to either purchase or sell allowances increases annually by 5% plus inflation. Historically, allowances have traded at or near the floor price, but the clearing prices for allowances in the auction have

increased significantly. The cost of compliance is anticipated to increase from $1.5 million in FY 2022 to $5.6 million in FY 2030, about an 18% increase per year on average, as shown in the following table:

Figure 11: Estimated Cap and Trade Costs



Revenues from the auction sale of gas utility allowances (currently about $1.2 million per year) must be used exclusively for the benefit of the ratepayers in that utility in accordance with California Code of Regulations (CCR Title 17, section 95893). Approved uses are 1) the funding of certain energy efficiency rebates, retrofits, and demand reduction programs, 2) funding for programs with demonstrated GHG reductions, 3) non-volumetric return to ratepayers, either on or off bill, and 4) certain administrative, outreach and educational costs related to items 1-3 above. Council adopted a policy on the use of allowance proceeds (Resolution #9487), generally mirroring the regulations and requiring additional Council approval for rebates. Per the current regulations, the utility must either spend or rebate the funds received in any given year within 10 years (for example, funds received in 2020 must be spent by 2030, etc.).

As of the end of FY 2021, unspent funds related to Cap and Trade revenues were placed in a Cap and Trade reserve, until such time as they can be utilized per the dictates of applicable regulations. There was $6.7 million in this reserve available for use at the end of FY 2022.

2.1.4 Gas Transmission Line Capacity Valuation

Palo Alto contracts for capacity on the Redwood pipeline, the path from the California-Oregon border to PG&E's mid-pressure transmission system, at a cost lower than the market value. During the summer months, Palo Alto does not need all of the capacity to serve demand. The excess capacity is monetized by purchasing gas at the California-Oregon border and selling an equal amount of gas at the terminus of the pipeline. The variable cost of transporting the gas is much less than the gas price difference between the two points. The net benefit to the Gas Utility through Q2 of FY 2023 was $169K, or a reduction of about 1.4% of the total gas commodity costs.

2.1.5 Gas Prepay Valuation

On September 15, 2014, Council adopted Resolution #9451 authorizing the City's participation in a natural gas purchase from Municipal Gas Acquisition and Supply Corporation (MuniGas) for the City's entire retail gas load

for a period of at least 10 years. The MuniGas transaction includes a mechanism for municipal utilities to utilize their tax-exempt status to achieve a discount on the market price of gas. The program has reduced about $385K, or 3.2% of the total gas commodity costs through Q2 of FY 2023.

2.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

- **GS-14003 - GMR 24A (Gas Main Replacement 24A):** The GMR 24A project will replace approximately 2,450 linear feet of gas main along Shopping Center Way and Orchard Lane in Stanford Shopping Center. The City coordinated the schedule with Simon Property Group Inc. (shopping center's management) for construction work to occur between 6 AM and 3 PM. The project had a delayed start due to the significant weather events that occurred around the beginning of 2023; therefore, the revised completion date has been extended commensurately from 3/31/23 to 4/13/23.
- **GS-14003 - GMR 24B (Gas Main Replacement 24B):** The GMR 24B project will include gas pipes on University from Webster to 101 and surrounding streets, as well as Geng Rd and Town & Country Village. Staff is waiting for the final federal grant award determination, which will be available in February 2023.

2.3 Rate and Bill Comparisons

The figure below shows the bills for residential customers in Palo Alto and PG&E, at different levels of usage and rates, both on an annual and monthly basis. The PG&E bills are based on their Climate Zone X, which includes Menlo Park, Redwood City, Mountain View, Los Altos and Santa Clara. In 2022, the median residential customer in Palo Alto paid an annual gas bill of $821, which was 11% less than what a PG&E customer with the same usage would pay. However, in January 2023, Palo Alto bills were unusually high due to high gas commodity prices. But it is expected that Palo Alto gas bills will be lower than PG&E's gas bills for the rest of the year.

Figure 12: Residential Natural Gas Bill Comparison ($/month)

Year/Month	Median Usage[6] (therms)	Palo Alto	PG&E Zone X	% Difference
CY 2021	402	$ 631.28	$ 701.60	(14%)
CY 2022	402	821.33	868.62	(11%)
November 2022	32	62.64	76.93	(19%)
December 2022	69	175.06	171.96	2%
January 2023	76	393.57	217.25	81%
February 2023	60	141.08	178.91	(21%)

2.4 Reliability

The City of Palo Alto tracks all gas service interruptions. A summary chart of these interruptions can be found below. Gas service interruptions are usually due to repairs of broken or damaged gas services and mains. This kind of damage is often caused by excavation by outside parties digging in the City.

[6] Based on Palo Alto G-1 monthly median usage.

Figure 13: Gas Service Interruptions, FY 2023

Gas	Q1	Q2
Number of Breaks	9	4
Total Minutes	643	330
Customers Affected	20	5

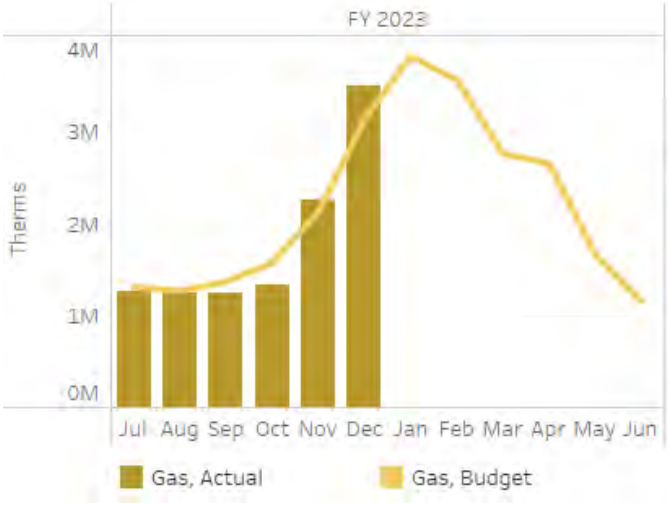
2.5 Financial Health

Below is a summary of the financial position for the gas utility.

2.5.1 Sales Forecasts vs. Actuals

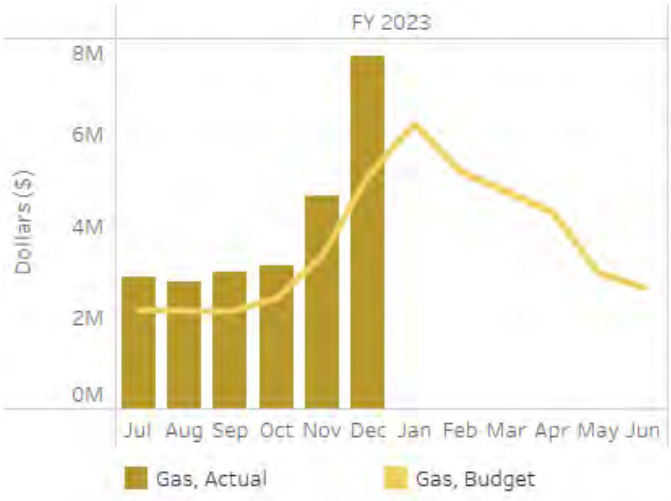
Actual gas sales volumes through Q2 of FY 2023 were about the same as forecasted, while actual sales revenue was about 39% higher than forecasted in the FY 2023 Financial Plan, due to high gas market commodity prices. Much of the revenue is pass-through in nature and offsets commensurately higher gas commodity purchase costs.

Figure 14: Gas Sales Volume (Therms), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	1,312,955	1,262,859	-50,096	-3.8%
Aug	1,273,056	1,250,771	-22,285	-1.8%
Sep	1,372,999	1,239,006	-133,993	-9.8%
Oct	1,577,927	1,335,181	-242,746	-15.4%
Nov	2,140,219	2,257,211	116,992	5.5%
Dec	3,153,598	3,500,110	346,512	11.0%
Jan	3,830,945			
Feb	3,575,685			
Mar	2,770,018			
Apr	2,660,158			
May	1,670,754			
Jun	1,162,461			

Figure 15: Gas Sales Revenue ($), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	2,158,795	2,880,043	721,248	33.4%
Aug	2,142,170	2,787,192	645,022	30.1%
Sep	2,136,412	2,993,352	856,940	40.1%
Oct	2,420,904	3,129,985	709,081	29.3%
Nov	3,371,129	4,669,267	1,298,138	38.5%
Dec	5,123,807	7,723,463	2,599,656	50.7%
Jan	6,241,688			
Feb	5,195,946			
Mar	4,753,158			
Apr	4,296,964			
May	2,984,368			
Jun	2,644,552			

2.5.2 Financial Position

The FY 2022 ending Operations Reserve balance was $11.3 million, above the minimum guideline level of $7.8 million. The Operations Reserve is expected to drop below the minimum guideline level in FY 2023, given higher than budgeted gas commodity prices that could not be passed through to customers. Through FY 2023 Q2, therm sales volume was approximately the same as budgeted, but sales revenues were almost 39% higher than budget. Because the gas commodity charge is a pass-through of market costs, typically, increased revenue offsets the increased cost; this year in January the revenue was not enough to offset the increased costs because the actual gas commodity price exceeded Palo Alto's price cap. This will put pressure on reserves in FY 2023. Staff will provide financial forecast projections in March 2023.

3 Water Utility

The Water Utility serves water to virtually all Palo Alto residential and non-residential customers. All potable water in the City is from the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Water System. This system delivers high quality water from the Sierra Nevada and uses no pumping to deliver water to Palo Alto. Palo Alto uses a small amount of recycled water for irrigation of the Municipal Golf Course and a few other sites near the Regional Water Quality Control Plant. The City also maintains a system of reservoirs and wells that enable Palo Alto to serve water during an interruption of the Hetch Hetchy system. Costs for the Water Utility are split approximately half for the operation, maintenance and periodic replacement of Palo Alto's water system and half for the costs of the water purchased.

3.1 Water Supply and Transmission

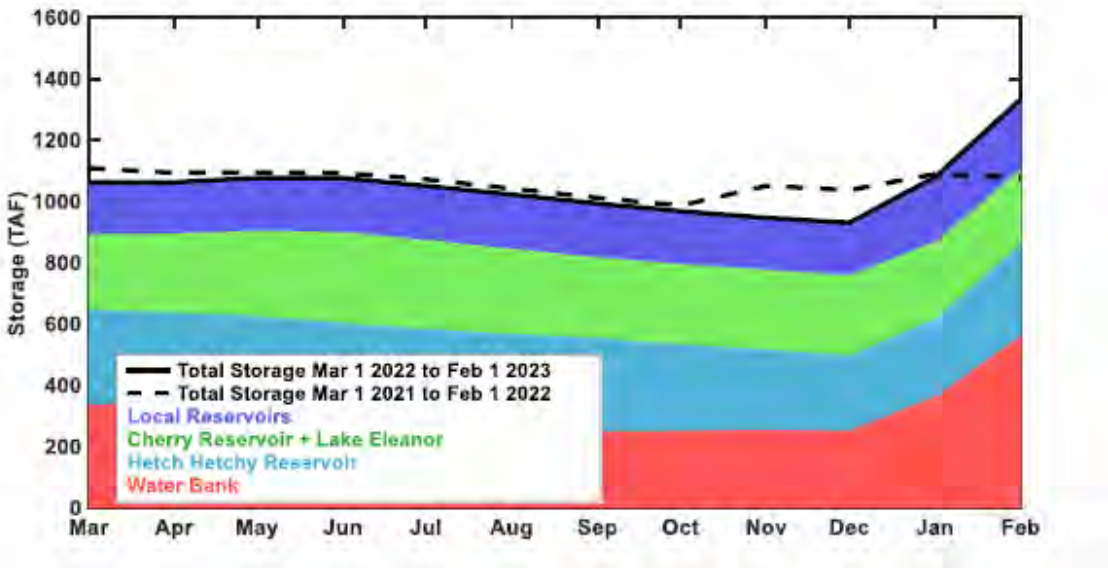
On November 10, 2022, Governor Newsom's senior Water-Policy Officials, the San Francisco Public Utilities Commission (SFPUC), and the Modesto and Turlock Irrigation Districts reached agreement on a Memorandum of Understanding to provide greater water flows and increased habitat for the Tuolumne River. The Bay Area Water Supply and Conservation Agency (BAWSCA) anticipates that this MOU will become a part of a larger voluntary agreement for the Sacramento-San Joaquin Delta. The agreement includes investments of $64M for habitat restoration. The next step is for the MOU signatories and others to work out the implementation details of a Bay-Delta-wide voluntary agreement for evaluation by the State Water Resources Control Board as an alternative to the adopted Bay-Delta Plan. The State Water Resource Control Board's schedule indicates development of the Tuolumne Specific Addendum Scientific Basis Report by fall 2023 and the Phase 1 Final Water Quality Control Plan by summer 2024.

In August 2018, Palo Alto's City Council voted to support the State Water Resources Control Board's Bay-Delta Plan to have 40 percent of natural water in the Central Valley to enter the Delta from February to June and associated Southern Delta salinity objectives; and send a letter expressing this policy position to BAWSCA, California State Water Resources Control Board, San Francisco Public Utilities Commission (SFPUC), and other stakeholders.

As a result of the above average precipitation in December 2022 and January 2023, storage in the San Francisco Regional Water System is above normal for this time of year. As of January 30, 2023, the Regional Water System total storage operated by the San Francisco Public Utilities Commission (SFPUC) was 90.8% full (normal system storage for this time of year is 80.3%). As of January 30, 2023, Water Bank was 99.2% full. In the figure below, the solid black line shows storage in the Regional Water System for the past 12 months (color bands show contributions to total system storage) and the dashed black line shows total system storage for the previous 12

months. Regional Water System Storage increased in December 2022 and January 2023 to 1.33 Thousand Acre Feet (TAF) as of February 1, 2023.

Figure 16: Regional Water System Storage



On August 20, 2021 the SFPUC received curtailment orders for Tuolumne River diversions. The curtailments eliminate access to the Water Bank which, as shown in the figure above, provides much of the system storage. From October 2021 through May 2022, the State Board suspended the curtailments and reinstated them on June 8, 2022. It is uncertain what action the State Board will take regarding curtailments during 2023.

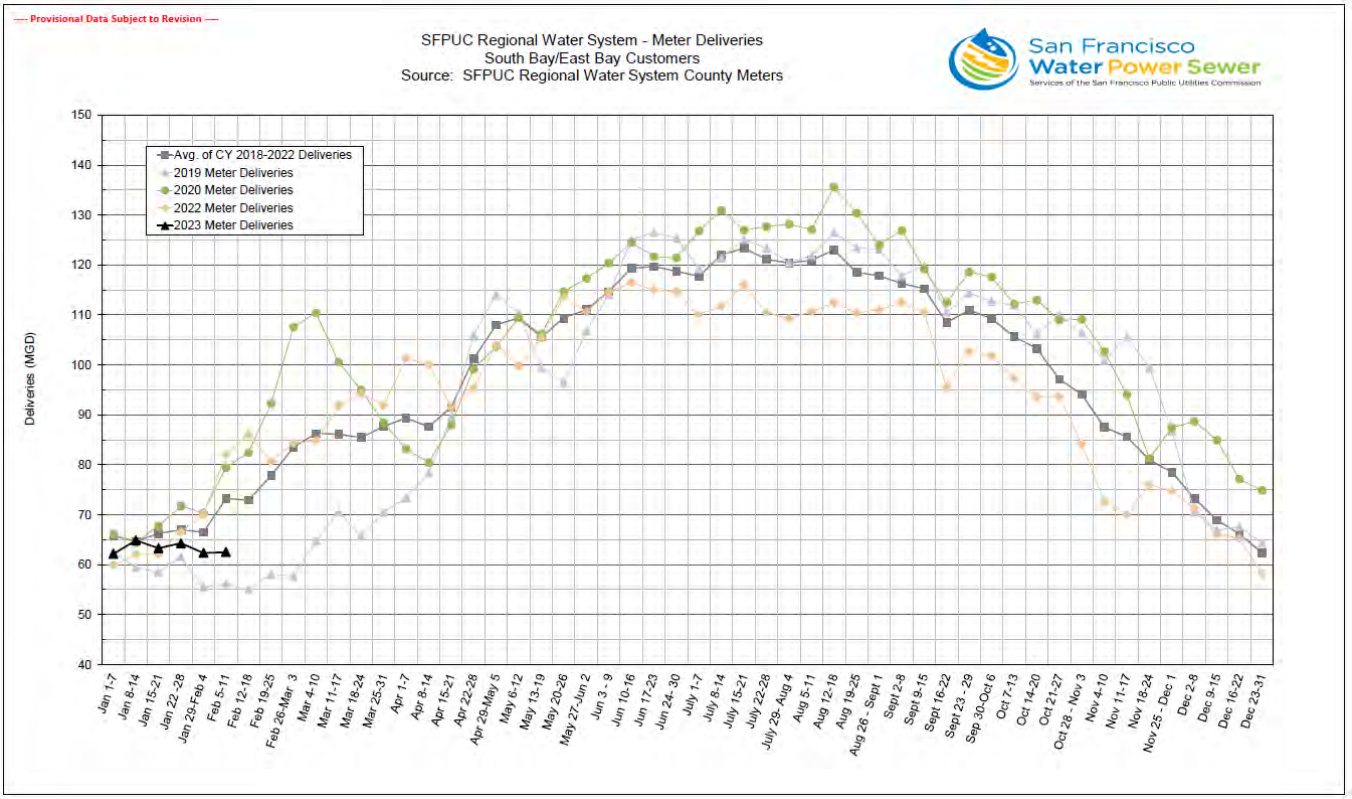
The SFPUC declared a local water shortage emergency by Resolution No. 21-0177 on November 23, 2021, calling for voluntary systemwide 10% water use reductions from FY 2019-2020 levels and increased the systemwide water use reduction to a voluntary systemwide 11% from FY 2019-2020 levels on May 24, 2022 via adoption of Resolution No. 22-0098. SFPUC increased the systemwide water use reduction in compliance with the State Water Resource Control Board's May 24, 2022 emergency regulation requiring urban water suppliers to implement the demand reduction actions associated with water shortage level of 10% to 20% by June 10, 2022. Each Wholesale Customer has its own requested cutback level; Palo Alto's voluntary water purchase cutback level is 8%. For January – December 2022, Palo Alto's cumulative monthly water budgets were 4,382,357 CCF while actual total purchases were approximately 4,652,227 CCF or 6% above the budget. This is in part because of the exceptionally dry conditions in January through March 2022. However, for the billing months July 2022 through December 2022, compared with the same period from July 2019 to December 2019, the Palo Alto community reduced water usage by 11%. On January 31, 2023, SFPUC sent Palo Alto the initial water supply availability estimate stating that while rainfall, snowpack, and reservoir storage indicate a strong probability that SFPUC will be able to meet full customer demand this year, at this time, SFPUC is not making any changes to its reduction request. For the moment, SFPUC is continuing to monitor both water supply conditions and State actions regarding its emergency drought declaration, which is still in effect. SFPUC plans to provide a final water supply availability memo in early April.

During droughts that require up to 20% cutbacks, water is allocated between San Francisco and the Wholesale Customers collectively based upon the Water Shortage Allocation Plan (or Tier One Plan) that is outlined in Palo Alto's water supply contract with San Francisco. The collective Wholesale Customer share from the Tier One Plan is then allocated among Wholesale Customers based upon a formula in a negotiated and adopted "Tier Two Plan."

Palo Alto's current water budget is based upon the results of the current Tier One and Tier Two Plans. Since January 2022, staff have been participating in a negotiation with the other Wholesale Customers to update the Tier Two Plan. Staff expects to finalize the updated Tier Two Plan in 2023.

The figure below shows water usage for the South Bay/East Bay (including Palo Alto) compared to several benchmarks including 2019. For the South Bay/East Bay region as well as systemwide, demand in the first six weeks of 2023 has been below or equal to the average of the last five years.

Figure 17: SFPUC Water Deliveries



Valley Water, the groundwater manager in Santa Clara County, declared a water shortage emergency and adopted a 15% mandatory water use reduction for water retailers its agency serves. Valley Water called for the County, water retailers and cities to restrict ornamental landscape and lawn irrigation with potable water within their service or jurisdictional areas to no more than two days per week. Although Palo Alto purchases all of its potable water from SFPUC, and does not purchase any water from Valley Water, Palo Alto partners with Valley Water on wide variety of water conservation programs. On June 20, 2022, the Palo Alto City Council restricted potable irrigation of ornamental landscapes and lawns to 2 days per week, except to ensure the health of trees and other perennial non-turf plantings. The State Water Resources Control Board also prohibited the use of potable water for the irrigation of "non-functional turf" at commercial, industrial, and institutional sites other than to the extent necessary to ensure the health of trees and other perennial non-turf plantings.

The Palo Alto City Council also implemented the water use restrictions in Stage II of the Water Shortage Contingency Plan which are 1) restaurants and other food service operations shall serve water to customers only upon request and 2) operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. Palo Alto is working with Valley Water on messaging to customers in the county

to avoid confusion as much as possible. As such, the City's messaging will continue to emphasize the wise use of water rather than specific water usage targets. Palo Alto staff is continuing to focus on education and outreach and providing resources to eliminate water waste and achieve efficient water use and completed the process of hiring a Water Waste Coordinator in October. The Water Waste Coordinator is logging and following-up on water waste reports. Palo Alto is kicking off the WaterSmart Customer Portal and Residential Home Water Report Program and also re-engaging with Waterfluence software to target water efficiency for large landscape customers. Staff continues to promote rebate programs and resources through online outreach, bill inserts, and newsletters.

Palo Alto launched the One Water Plan with the goal of Council adoption of a One Water supply plan that is a 20-year adaptable roadmap for implementation of water supply and conservation portfolio alternatives. In June the City Council approved a contract for this work with Carollo Engineers, Inc. In September and December 2022, staff conducted stakeholder engagement meetings with community members and City staff focusing on One Water community needs and priorities and water supply and conservation options and draft evaluation criteria. The community can still weigh in on the evaluation criteria via this survey. Additional stakeholder engagement meetings are planned with City staff, community members, and regional partners in spring 2023 to share initial results. The UAC received a status update in February 2023 (Staff Report #14974) and staff plans to schedule a joint meeting with the UAC and Stormwater Oversight Committee in Q2 of 2023 to provide an update and share initial results.

3.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

- **WS-14001 - WMR 28 (Water Main Replacement 28):** The WMR 28 project replaces approximately 18,763 linear feet of water main and 256 water services in the Crescent Park, Barron Park, and Charleston Meadows neighborhoods. Construction of this project started during April 2022 and the anticipated completion date is in December 2023.
- **WS-07000 – California Avenue and Page Mill Road Turnouts:** The California Avenue and Page Mill Turnouts project upgrades the California Avenue Turnout and adds seismic restraints to the pressure reducing valve at Page Mill Road Turnout. The construction is anticipated to start in March 2023 and be completed by June 2023 (before water demand increases during the summer).

3.3 Rate and Bill Comparisons

The figure below shows the water bills for single-family residential customers compared to what they would be under surrounding communities' rate schedules as of October 2022. CPAU is among the highest monthly bills of the group. Palo Alto's water bills at 9 CCF per month are 17% higher than the comparison group average.

Figure 18: Residential Water Bill Comparison ($/month)

As of October 2022						
Usage CCF/month	Palo Alto	Menlo Park	Redwood City	Mountain View	Santa Clara	Hayward
4	$50.74	62.83	$54.04	$43.47	$29.32	$41.03
(Winter median) 7	76.54	87.32	76.09	67.29	51.31	63.23
(Annual median) 9	98.46	103.65	90.79	83.17	65.97	78.03

(Summer median) 14	153.26	148.02	138.94	122.87	102.62	123.48
25	273.82	257.41	267.39	257.81	183.25	223.47

3.4 Reliability

The City of Palo Alto tracks all water service interruptions. A summary chart of these interruptions can be found below. Water service interruptions are usually due to repairs of broken or damaged water services and mains.

Figure 19: Water Service Interruptions, FY 2023

Water	Q1	Q2
Number of Breaks	10	12
Combined Minutes	1007	1050
Customers Affected	46	249

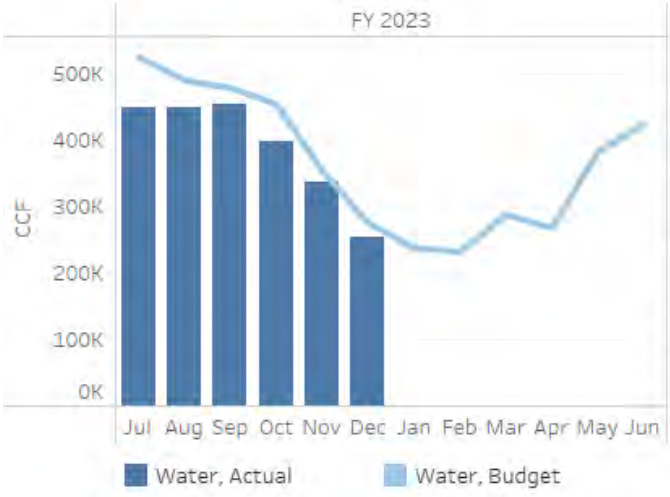
3.5 Financial Health

Below is a summary of the financial position for the water utility.

3.5.1 Sales Forecasts vs. Actuals

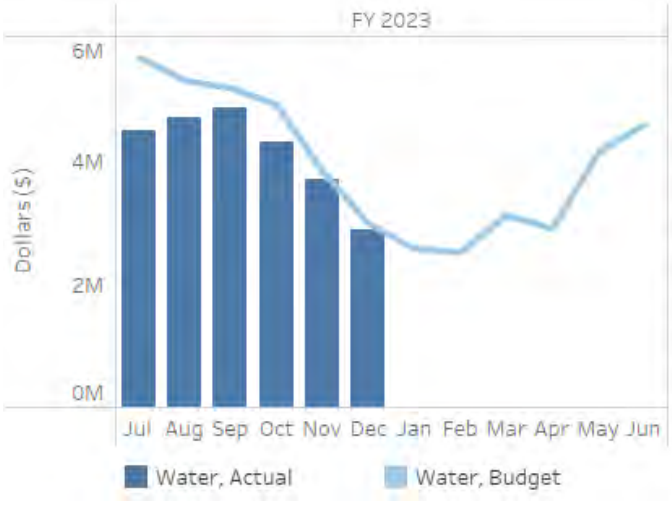
Actual water sales volumes through Q2 of FY 2023 were about 9% lower than forecasted, while actual water sales revenues were about 11% lower than forecasted in the FY 2023 financial plan. Sales were lower likely due to the water conservation efforts made throughout the drought periods, coupled with rainy weather during the winter. Staff will continue to promote drought-related and water savings communication through the rest of FY 2023.

Figure 20: Water Sales Volume (CCF), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	525,621	449,495	-76,126	-14.5%
Aug	490,256	449,699	-40,557	-8.3%
Sep	479,291	454,552	-24,739	-5.2%
Oct	454,425	398,947	-55,478	-12.2%
Nov	354,487	335,898	-18,589	-5.2%
Dec	275,706	254,318	-21,388	-7.8%
Jan	237,777			
Feb	232,409			
Mar	288,269			
Apr	268,185			
May	382,762			
Jun	424,508			

Figure 21: Water Sales Revenue ($), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	5,702,307	4,505,935	-1,196,372	-21.0%
Aug	5,318,642	4,707,270	-611,372	-11.5%
Sep	5,199,686	4,867,131	-332,555	-6.4%
Oct	4,929,922	4,317,455	-612,467	-12.4%
Nov	3,845,724	3,708,580	-137,144	-3.6%
Dec	2,991,053	2,892,403	-98,650	-3.3%
Jan	2,579,572			
Feb	2,521,336			
Mar	3,127,345			
Apr	2,909,460			
May	4,152,472			
Jun	4,605,362			

3.5.2 Financial Position

The Water Operations Reserve was filled to the maximum guideline level at the end of FY 2022 as higher bid costs and delays in project schedules resulted in deferred main replacement projects over the past few years. There are additional funds in the Operations Reserve above the maximum guideline level that will continue to be used to cover water utility operational and capital costs in FY 2023. At year end FY 2022 there was approximately $12.2 million in Water CIP Reappropriations and Commitments reserves. The FY 2023 Water Utility CIP includes a main replacement (WMR 28) as well as one-time seismic reservoir upgrades (one upgrade is complete and a second and third are planned in FY 2023 and FY 2026). At year end FY 2022, there was also $10.7 million in the CIP Reserve and $9.07 million in the Rate Stabilization Reserve. Due to the ongoing drought and water conservation efforts, the water utility's sales revenue declined in FY 2022 by approximately $3.4 million compared with sales revenue in FY 2021. The water utility used reserves to cover costs in FY 2022 and plans to continue to use reserves in FY 2023 while ongoing drought or drought recovery continues to reduce sales revenues. Staff's preliminary projection of expected revenues and expenses together with transfers from the CIP Reserve, estimates the Operations Reserve will reach approximately target levels by the end of FY 2024. Staff will continue to monitor drought conditions and respond to calls for voluntary or mandatory conservation. Staff will evaluate and propose reserve transfers between the Rate Stabilization Reserve, CIP Reserve, and Operations Reserve in the annual Financial Plans in March 2023.

4 Wastewater Utility

The Wastewater Utility includes the system of sewer pipes that collect and transport wastewater to the Regional Water Quality Control Plant (RWQCP) operated by the City of Palo Alto under a partnership agreement with several surrounding communities, as well as Palo Alto's share of the cost of operating the RWQCP. The RWQCP provides treatment and disposal of wastewater for Palo Alto. Costs for the Wastewater Utility are split approximately half for the operation, maintenance and periodic replacement of Palo Alto's sewer collection system and half for the costs of wastewater treatment at the RWQCP.

4.1 Wastewater Treatment Updates and Capital Planning Status

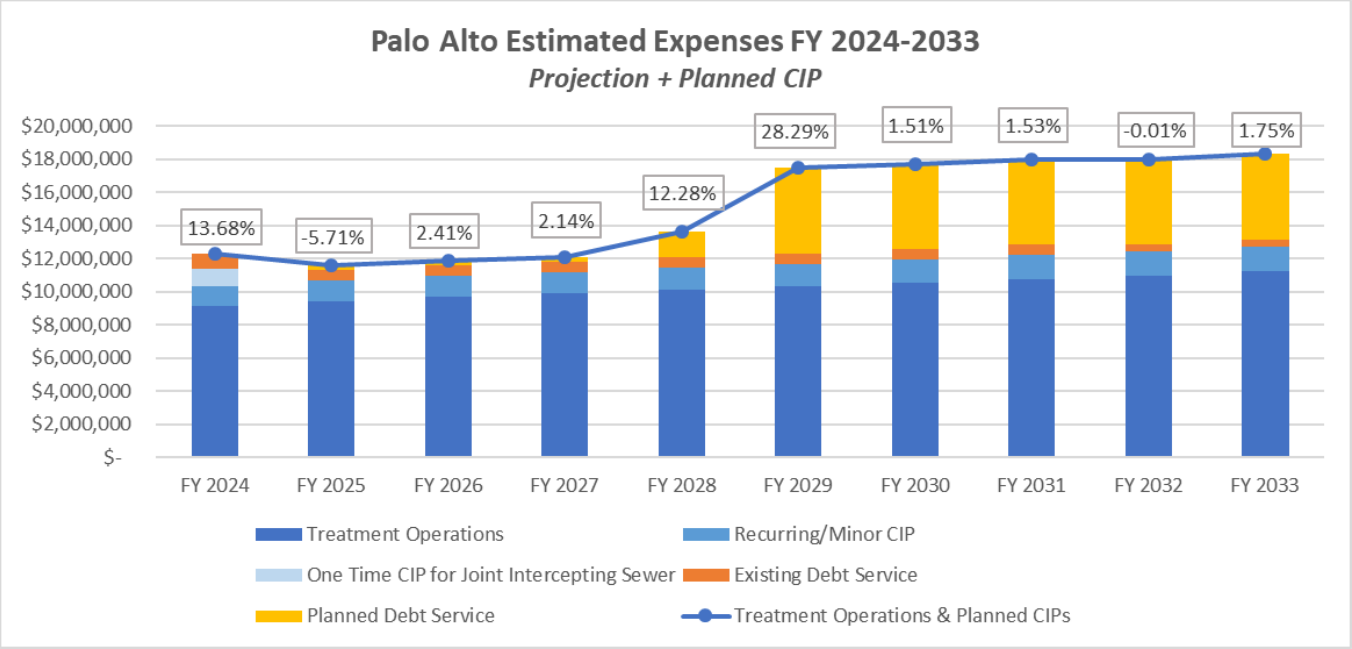
The Regional Water Quality Control Plant is operated by Palo Alto's Public Works Department and provides wastewater treatment to Palo Alto, Mountain View, Stanford, Los Altos, East Palo Alto and Los Altos Hills. The Palo Alto Wastewater Collection Utility pays its share (approximately 30% projected in FY 2024) of the costs for wastewater treatment and disposal. Capital costs for wastewater treatment are a major driver for cost increases for the Wastewater Treatment Utility and by extension for the Wastewater Collection Utility. The RWQCP is facing the need for major upgrades in coming years, due to aging equipment and changing environmental regulations. Rehabilitation and replacement of plant equipment that has been in use for over 40 years is necessary to ensure the city can continue to provide wastewater treatment operations safely and in compliance with regulatory requirements for the discharge of treated wastewater 24 hours a day.

4.1.1 Treatment Cost Trends

RWQCP staff project treatment costs paid for by Palo Alto's Wastewater utility to increase by approximately 4.5% annually on average from FY 2024 through FY 2033. A key driver of the increases are capital projects, parts, materials and debt. The treatment capital expenses, including debt service costs, are increasing at an average of about 9.5% per year from FY 2024 through FY 2033 to keep up with ongoing replacement of aging equipment. Larger increases to capital expenses are expected to begin in FY 2024 in the form of new debt service for major projects to implement the Plant's capital program. The figure below shows Palo Alto's share of each component of estimated treatment costs. Major upcoming capital projects and estimated years for debt service to begin are reflected in the "Planned Debt Service" bar in the figure below and include:

- Joint Interceptor Sewer Rehabilitation (FY 2024)
- 1900 Embarcadero Road Purchase; Primary Sedimentation Tank Rehabilitation (FY 2025)
- Outfall Line Construction, Operation Center and Laboratory (FY 2028)
- Secondary Treatment Upgrades, Headworks Facility (FY 2029)

Figure 22: Palo Alto's Share of Estimated Wastewater Treatment Expenses (Projection and Planned CIP)



The figure above shows the ongoing annual CIP reinvestment ("Recurring/Minor CIP" and "Existing Debt Service") as well as treatment operations costs, which make up the majority of the treatment costs but are not growing as quickly as the planned debt service. Factors that are contributing to cost increases for treatment operations are rising salary and benefits costs, allocated charges for centralized city services needed to support wastewater treatment fund operations, increased water and air permitting fees from the Regional Water Quality Control Board and Bay Area Air Quality Management District, commodity rates to operate the facility, and chemical expenses.

4.1.2 Regional Water Quality Control Plant Capital Planning Status

The Long-Range Facilities Plan, completed in 2012, guides the capital plans for the RWQCP. The RWQCP's current capital work in-progress includes an estimated $398 million in projects. The following table summarizes these ongoing projects and provides their status and costs.

Figure 23: Current RWQCP Capital Work In-Progress (based on RWQCP November 2022 Partners Meeting)

Project	Status	Expense (million $)
Primary Sedimentation Tanks Rehabilitation and Equipment Room Electrical Upgrade	Construction	$19.4
New Outfall Pipeline	90% Redesign	$17.4
Secondary Treatment Upgrades	Awarding Construction	$193
Advanced Water Purification System	90% Design	$56
Technical Services Building/Lab Building, Ops Building Remodel	Advanced Planning	$41.4
Buy 1900 Embarcadero Road	Planning	$6.0
Headworks Facility Replacement	Budgeted	$48.6
Joint Interceptor Sewer Rehabilitation	30% Design	$5.6
Projects in Progress	Various	$10.6
	Subtotal	**$398**

The largest projects listed above include the Headworks Facility Replacement which involves replacement or rehabilitation of the parts of the facility that pump raw sewage to the main treatment works (the headworks), and rehabilitation of primary sedimentation tanks that separate out primary sludge. Additionally, the RWQCP anticipates regulations to limit nutrient discharges (on total nitrogen) into the San Francisco Bay. The current secondary treatment design cannot remove nitrogen and the Secondary Treatment Upgrades will address this regulatory change as well as address aging mechanical and electrical equipment that must be replaced.

The RWQCP plans to fund these capital projects through a combination of mechanisms including State Revolving Fund loans, and revenue bonds. In addition, Valley Water will be providing $16 million of funding for the Advanced Water Purification System. Additionally, Palo Alto was awarded a $12.9 million grant for the Advanced Water Purification System from the United States Bureau of Reclamation's WaterSMART program, which allocates Title XVI Program funding under the Water Infrastructure Improvements for the Nation (WIIN) Act .

4.2 Collection System Capital Improvement Plan Status

The following capital projects are currently in progress:

- **WC-17001 - SSR 30 (Sanitary Sewer Replacement 30):** The SSR 30 project replaced approximately 9,649 linear feet of wastewater main and 195 sewer laterals in the Ventura, Research Park, Fairmeadow, and Midtown West neighborhoods. The construction will be substantially completed in early February 2023.
- **WC-19001 - SSR 31 (Sanitary Sewer Replacement 31):** The SSR 31 project replaces approximately 11,000 linear feet of wastewater main, sewer laterals, and manholes on El Camino Real and Page Mill Road. The bids are due in early February and construction is anticipated to start in July of 2023. 40% of the work will be performed during nighttime due to Caltrans' restriction to close 2 traffic lanes during daytime. Staff is coordinating with Caltrans and County of Santa Clara to stay ahead of their street improvement/paving projects. The SSR 31 contractor is expected to work 2 shifts during the day and night to expedite the sewer replacement and avoid digging into Caltrans or County's newly paved streets.

4.3 Rate and Bill Comparisons

The figure below shows the wastewater monthly bill for residential customers in Palo Alto compared to what they would be under surrounding communities' rate schedules as of November 2022. Palo Alto's monthly sewer bill is

lower than four of the six neighboring communities. Menlo Park in this table refers to the West Bay Sanitary District. Staff will report on future rate increases once they are adopted by the wastewater utilities.

Figure 24: Residential Wastewater Bill Comparison ($/month)

As of November 2022						
Palo Alto	Menlo Park	Redwood City	Mountain View	Los Altos	Santa Clara	Hayward
$44.62	$106.67	$89.28	$50.10	$42.05	$46.82	$38.58

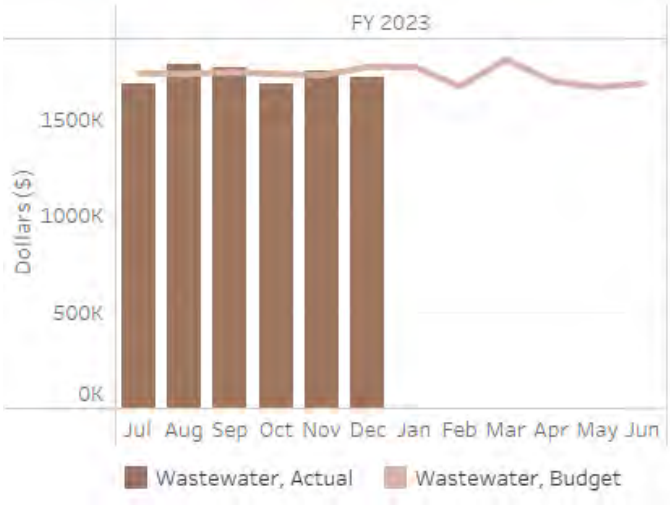
4.4 Financial Health

Below is a summary of the financial position for the wastewater utility.

4.4.1 Sales Forecasts vs. Actuals

Actual wastewater sales revenues through Q2 of FY 2023 were around expectation, at about 0.7% lower than forecasted in the FY 2023 Financial Plan.

Figure 25: Wastewater Sales Revenue ($), up to FY 2023-Q2



	Budget	Actual	Variance	Variance %
Jul	1,739,132	1,685,896	-53,236	-3.1%
Aug	1,733,213	1,786,224	53,011	3.1%
Sep	1,743,637	1,763,529	19,892	1.1%
Oct	1,734,767	1,682,448	-52,319	-3.0%
Nov	1,728,399	1,745,624	17,225	1.0%
Dec	1,771,013	1,716,142	-54,871	-3.1%
Jan	1,770,711			
Feb	1,669,155			
Mar	1,810,061			
Apr	1,696,732			
May	1,665,374			
Jun	1,684,910			

4.4.2 Financial Position

The Wastewater Collection Operations Reserve was within the guideline range at year end FY 2022; the CIP Reserve had a balance of approximately $3.2 million at year end FY 2022 and staff will seek Council approval in the FY 2024 Wastewater Collection Financial Plan to access funds in the CIP Reserve if they are needed for CIP projects in FY 2023. The Wastewater Collection Utility CIP Reappropriation and Commitment Reserves totaled $4.6 million at the end of FY 2022. Rising main replacement costs as well as the need to accelerate main replacement to prudently manage the City's infrastructure together with rising wastewater treatment costs is placing pressure on the wastewater utility's reserves. Staff will provide financial forecast projections in March 2023.

5 Fiber Utility

The City offers a "Dark" fiber service providing a fiber connection from Palo Alto businesses to the downtown Internet Exchange. At the exchange businesses select an internet service provider (ISP) for bandwidth and connection speed.

5.1 Fiber Utility Strategic Planning

On December 22, 2022 the Council approved construction of the fiber backbone and Fiber-to-the-Premises (FTTP) under a phased approach without debt financing (Staff Report #14800, Packet Pg. 268). Utilities will allocate approximately $34M from the Fiber Fund and $13M from the Electric Fund to build the fiber backbone and build phase one of the FTTP distribution network under a phased approach. Under this approach the City can build a dedicated fiber backbone for the Electric utility to enhance reliability, security, redundancy, and future electric-related initiatives such as automated SCADA sensors. The City will also be able to provide internet access to approximately 20% - 30% of homes and residents who prefer to switch to City-owned ISP. Council can decide whether to accelerate or decelerate the FTTP expansion plan in one or two years based on the results of phase one. In addition, the City will evaluate the feasibility of integrating FTTP expansion into future capital improvement projects such as electric grid modernization, electrification and undergrounding.

Staff recommends amending the contract with Magellan to provide professional consulting and technical services for construction of the fiber backbone build, construction of phase one of FTTP, and provisioning of City-owned ISP business. However, due to procurement conflict-of-interest rules, Magellan is precluded from offering services for construction and construction management.

Utilities will be bringing forward a recommendation to add four (4) new FTE positions for the dark fiber expansion and implementation of FTTP as part of the FY 2024 Utilities Proposed Budget. The titles of these positions are Assistant Director, Outside Plant Manager, Marketing and Sales Manager and Network Architect/Senior Engineer. These positions will be recruited and filled as needed during the various stages of the project

5.2 Capital Improvement Plan Status

Given Council's approval of construction of phase one of FTTP, CPAU will create a new FTTP CIP project under the fiber utility in the FY 2024 Fiber CIP Budget. Staff will return to UAC and Council to determine potential areas for phase one construction. Staff will identify synergies to reduce construction costs and minimize community disruption between the fiber FTTP and electric Grid Modernization CIP projects.

5.3 Reliability

There were no unplanned fiber outages or events to report in Q3 of FY 2023.

5.4 Financial Health

Below is a summary of the financial position for the fiber utility.

5.4.1 Fiber Sales

Actual dark fiber revenues for Q1 FY 2023 were $1.6 million, which is within the FY 2023 revenue forecast of $3.6 million. Based on the number of new dark fiber applications, staff projects annual fiber revenues will return to pre-pandemic level of $4.5 million by end of FY 2024. To expand the dark fiber business, CPAU has a hired a full-time Fiber Market Analyst to promote dark fiber and reduce fulfillment time for new applications. In addition, CPAU is recruiting for a dedicated Fiber Engineer to support the fiber expansion project.

Actual fiber expenses for Q1 FY 2023 were $1.3 million which is comprised of salaries and benefits ($0.7 million), contract expenses ($0.1 million), administration overhead ($0.4 million), and transfers to other utilities ($0.1 million).

5.4.2 Financial Position

The projected ending FY 2022 Fiber Optic Utility Rate Stabilization Reserve is $34.0 million.

6 Customer Programs (Efficiency and Sustainability)

The City's Utilities Department maintains a number of programs to help customers save money, use energy and water efficiently, and reduce carbon emissions. These programs are funded through a variety of funding sources, some of which are summarized below.

6.1 Customer Programs Updates

Below is a summary of the City's energy and water efficiency programs, as well as programs to encourage building electrification and adoption of electric vehicles.

6.1.1 Energy and Water Efficiency

Energy & Water Efficiency Workshops

The City in partnership with the Bay Area Water Supply and Conservation Agency (BAWSCA) held three landscape efficiency workshops in fall 2022. The workshops covered topics on harvesting rainwater, steps to take to design and convert lawns into drought-tolerant landscapes, and available rebates. Attendance was strong, with more than 91 residents total participating in the workshops.

Figure 26: Schedule of CPAU Workshops September - November 2022

Event #	Date	Event
1	9/24/2022	Rain Barrel Workshop
2	10/18/2022	Landscape Design 101
3	11/1/2022	Lawn Conversion 101

Please visit the BAWSCA website for a complete list of available classes and events at: https://bawsca.org/conserve/programs/classes. All past Landscape Class Videos are available online at: https://bawsca.org/conserve/landscaping/videos/. For updates on future events and workshops, please visit http://cityofpaloalto.org/workshops

With collaboration from the City Manager's Office, Planning and Development Services and the Utilities Department, a Making Better Choices in Your Home Workshop was held on Saturday, October 15 from 10 a.m. – 1 p.m. at Mitchell Park Community Center. Over 200 attendees learned about different climate-friendly choices they can make in their home, including displays of heat pump water heaters, and experts answering questions about induction cooktops, electric vehicles, e-bikes, water saving and the advantages of going all electric.

Residential Energy and Water Programs

The Home Efficiency Genie program continues to provide residents with professional advice and information to improve their home's efficiency and comfort, lower their energy and water usage and get guidance on home electrification options. Even with the Genie returning to in-home comprehensive and diagnostic assessments in the fall of 2021, the virtual option developed during COVID continues to be a service that residents are interested in. The Home Electrification Readiness Assessment (HERA) was also amended to include a virtual version during COVID. Both the in-home and virtual versions continue to help residents assess home electrification upgrades that their home can accommodate and provide actionable next steps. Between October and December of 2022, the Genie performed 14 comprehensive in-home assessments, 11 HERAs and 3 virtual assessments.

CPAU's Residential Energy Assistance Program (REAP) for income-qualified customers continues to reach our most vulnerable population offering energy and water efficiency improvements at no cost to the customer. Residents who are newly qualified for CPAU's Rate Assistance Program (RAP) are notified each month of their eligibility for these free upgrades installed by CPAU's vendor, Synergy. Between October and December of 2022, 6 new REAP customers have taken advantage of the free efficiency upgrades, with projects including building envelope improvements, furnace replacements with high efficiency models, and lighting upgrades to LEDs.

For our multifamily (MF) property owners, CPAU continues to offer the Multi Family Plus (MF+) program which offers free energy efficiency upgrades installed by our vendor, Synergy. These upgrades include lighting upgrades to LEDs and whole building envelope upgrades.

CPAU partners with Valley Water to offer a robust portfolio of water conservation programs and rebates for residents and businesses. On July 1, 2022, the City entered into a new cost-sharing agreement with Valley Water which increases rebate amounts for converting turf into drought-tolerant landscapes and includes a new Lawn to Mulch rebate program for commercial customers. As drought conditions continue, CPAU is focusing outreach on reducing outdoor water use and continues to encourage participation in rebates and resources.

Bay Area SunShares Program

For the seventh year in a row, the City of Palo Alto is an outreach partner for Bay Area SunShares, a solar and battery storage group-buy program administered by Building Council for Climate Change (BC3). Palo Alto's participation as an outreach partner helps CPAU customers receive information and discounted prices from vetted contractors. Three solar installers (Solar Technologies, SkyTech Solar, and Infinity Energy) have been vetted and selected through an RFP process. CPAU Palo Alto had the highest number of SunShares registrations with 161 registered residents and number of solar and storage contracts signed (32 contracts). Of the 32 contracts signed, 23 contracts were for solar only, 8 for solar and storage, and 1 for storage only.

Business Advantage Program

As of February 3, 2023 the Business Advantage Program (BAP) has ended. The decision to sunset the program was based on lower customer participation, long lead times of installers, growing customer complaints and key staff turnover. During the last full quarter of the program only two installations were completed. In contrast, the program's monthly average in first three quarters was 9 installations. Also, the BAP customer implementor Gridpoint had an ongoing issue with program installers. During the second and third quarter of CY 2022 the installer resigned and then renegotiated the install fee causing long lead times for installation and equipment commissioning. The program received a steady stream of customer dissatisfaction with the Honeywell provided thermostat. Customers complained of the lack of functionality and frustration with interface. Customer

dissatisfaction in the last quarter of CY 2022 caused several businesses to request uninstalls. Lastly, key program staff, lead salesperson and program manager, left the company. The new sales staff was 100% remote with no plans for face-to-face sales. Despite CPAU's decision not to continue offering the HVAC system controller, the program was a success. The program was designed for relief during the COVID 19 pandemic. Seventy-five small business customers took advantage of the GridPoint Energy Management system (GEM). Staff is considering replacement program with stricter alignment of S/CAP goals and electrification.

Commercial & Industrial Energy Efficiency Program

As of February 1, 2023, Enovity has 15 projects in process with 362,000 kWh savings. The Key Account Representatives have been actively reaching out to engage customers with direct email contacts and setting up face to face meeting.

Figure 27: Energy Efficiency Program Energy Savings

Project Name	Date	Facility Address	kWh Savings
1050 Arastradero LED Phase 2	09/21/21	1050 Arastradero	38,211
3165 Porter LED Phase 2	09/21/21	3165 Porter St	54,070
801 Welch LED	09/21/21	801 Welch	42,457
3375 Hillview Chlr Replacement	10/21/21	3375 Hillview	0
855 CA Chlr RCx	10/25/21	855 California	48,600
LPCH Main LED	12/10/21	725 Welch Rd	0
Tesla 3500 Deer Creek	02/14/22	3500 Deer Creek	0
1189 Welch LED	03/07/22	1189 Welch	178,844
Stanford Shopping Center LED	05/18/22	660 Stanford Shopping Center	0
CPI	06/10/22	811 Hansen Way	0
CPI Power Supply	06/10/22	811 Hansen Way	0
LPCH Main Ventilation Reduction	09/30/22	725 Welch Rd	0
1050 Arastradero Economizer	09/30/22	1050 Arastradero	0
855 CA Chlr RCx Phase II	09/30/22	855 California	0
875 Blake Wilbur Controls Upgrade	01/11/23	875 Blake Wilbur	0
			362,182

Business Customer Rebates, formerly Commercial Advantage Program

The Business Customer Rebate (BCR) remains the primary program for customers to apply for rebates for energy efficiency and electrification projects installed at customers sites. City of Palo Alto Utilities (CPAU) offers rebates to commercial, industrial, and public sector customers to upgrade their equipment to energy-efficient products. In May 2022, BCR was expanded to offer electrification rebates to incentivize customers to retrofit gas space heating, water heating and cooking equipment with efficient electric alternatives. This program has limited participation as business customers continue to implement projects at a slow pace. As of February 1, 2023, only two projects have been implemented, with approximately 185,00KWH saved.

Business Energy Advisor

The Business Energy Advisor program is progressing, having 7 new site assessments and 2 project feasibility studies completed in Q2 FY 2023. There continues to be a heavy focus on outreach and promotion of this new

program with the CLEAResult call campaign reaching over 600 customers, direct emails to 115 past CPAU program participants, and 2 e-newsletters sent to 8,073 subscribers. We have continued in person outreach, making numerous visits to businesses on California Ave., University Ave., and San Antonio Rd. The next steps for this program include more outreach via a direct postcard mailer, resuming in person outreach and implementing this program into the EECP database system for tracking and reporting.

6.1.2 Building Electrification

With sustainability continuing to be a Council priority, staff recognizes the need to promote the importance and benefits of building electrification (BE) while removing barriers to voluntary electrification efforts in existing buildings. Current work covers three areas of activities: public outreach, customer program development and implementation, and strategy and policy development.

For public outreach, staff participated throughout 2022 in meetings with Working Group teams developed through the Council's Ad Hoc Committee.

For residential customer programs, staff negotiated a 3rd party program administrator for the implementation of a full-service heat pump water heater (HPWH) installation program. The program aims to retrofit 1,000 gas water heaters in single family homes in a year; customers can choose to pay for the project upfront or select an on-bill financing option with 0% interest rate. The program contract with 3rd party vendor Synergy was approved by Council on October 3, 2022. Enthusiasm in this program has been high with 382 residents having signed up on the online interest list as of March 6, 2023. Synergy began site assessments for HPWH installation in late February and have scheduled 12 assessments through March 9, 2023. Lessons learned from this program will include understanding challenges with deploying a large-scale electrification effort, which will be used to inform the development of future electrification programs.

For strategy and policy development, Utilities staff collaborated with Planning & Development Services to develop building electrification requirements as part of the City's Green Building Ordinance for the 2023-2025 building code cycle. Staff solicited stakeholder inputs in multiple public meetings between June and August 2022. Staff presented the proposed requirements to City Council in October; Council unanimously approved the requirements in November 2022. The following building electrification requirements became effective on January 1, 2023:

- All-electric design for new construction projects; this applies to low-rise residential buildings, detached ADUs, multifamily buildings, and nonresidential buildings.
- Addition/alteration projects that meet the "Substantial Remodel" definition will trigger the all-electric requirements. For the purposes of electrification, substantial remodel shall mean the alteration of any structure, including cumulative projects or additions to the existing structure within any three (3) year period, that affects the removal or replacement of 50% of the linear length of the exterior weight-bearing walls of the building, 50% of the wall plate height is raised, and/or 50% of the roof structural framing.
- Prohibit the extension of gas infrastructure in existing buildings to outdoor amenities such as pools, spas, fireplaces and grills in order to minimize the carbon footprint of these equipment.
- Require heat pump water heater when the existing water heater is replaced, or new water heater is added as part of a residential addition or alteration project.

Collectively these proposed requirements will avoid over 3,420 MT CO_2-e per year, about 1% to 1.5% of the remaining emissions reductions needed to achieve the 80x30 goal (about 1.5% to 2% when upstream emissions from fuel use are included).[7]

Business Electrification Technical Assistance Program **(BE TAP)**

For commercial customers, staff partnered with CLEAResult in the launch of the Business Electrification Technical Assistance Program (BE TAP) in August 2022. This program offers free electrification assessment and technical assistance to implement building electrification projects to a variety of business types including but not limited to hotels, restaurants, churches, and office buildings. To date, program outreach activities include call campaigns, e-newsletters, and utility bill inserts. A total of 5 site assessments have been completed in Q2 FY 2023.

6.1.3 Electric Vehicles

Palo Alto continues to facilitate the installation of EV charging infrastructure throughout the City to support mass EV adoption, with equitable access for multifamily and income-qualified residents, as well as workplaces, public parking lots and retail areas. Correspondingly, cross-departmental work is progressing on proposals for fleet electrification.

Financial Overview

FY 2022 EV program related expenses were $1.3M, of which $0.465M was for the second installment of the CALeVIP program, $286k was contribution to the Clean Fuel Rebate (CFR) program, $121k for EVTAP (Electric Vehicle Technical Assistance Program) management by CLEAResult, and $170k in customer rebate payments. Revenues for the year is $1 M, lower than anticipated a year ago due to declining market prices for LCFS credits. As of 6/30/2022, the LCFS program fund had a reserve balance of $7.23M.

Summary of All EV Programs for Multi-family (MF) Properties and Workplaces

- **Mission:** The EV team's mission is to facilitate the installation of EV chargers to support increased EV adoption with a priority on MF properties. To reach 80 by 30 S/CAP goals, it is imperative that there is enough charging infrastructure for residents, commuters and visitors. For residents, the priority is to close the MF EV access gap, as only 13% of EVs in Palo Alto are registered at MF buildings, while MF makes up 42% of households.
- **Goal of EV Programs:** Expand EV charging accessibility to 10% of MF households (about 1,100 homes) by 2025.
- **Why:** Most middle-income and low to moderate-income residents in Palo Alto live in MF housing. EVs provide significant lifetime household savings, and yet those who most need those savings have the hardest time gaining EV charging access due to the challenges associated with installing chargers at MF properties. Private industry is not adequately serving this market, whereas the City is well-positioned to support this hard to reach and slower to move customer segment, making meaningful use of available City funding sources for EV promotion.
- **Target Customer Segment:** MF property owners, Home Owners Associations (HOAs), nonprofits, owners of small medium businesses and buildings, as well large C&I customers.
- **What CPAU can provide:**
    - Trusted, neutral advisory services (rather than vendor sales services) with a direct connection to internal City staff to facilitate problems.

[7] Using 20-year global warming potentials.

  - Technical assistance (site evaluation, including electrical capacity, business case development, project design, obtaining bids, preparing permit packages)
  - Incentives (both for charging equipment and distribution upgrades)

- **Strategy:** Facilitate development of shared Level 2 chargers in multi-family buildings as well as, as many Level 1 chargers as can be installed. Size electrical infrastructure to enable the building owner to add more EV charging ports in the future. Also, encourage the installation of low-power Level 2 chargers when appropriate as a grid-friendly strategy to increase EV charging options for as many EVs as possible.

Aggregated Results to-Date for All EV Programs Targeting Multi-family (MF) Properties and Workplaces

- **Program Commencement:** December 2017 (multi-family rebates), October 2019 (multi-family/nonprofit technical assistance), December 2019 (workplace charging rebates)
- **Leads:** Over 130 sites have enrolled in the programs, of which 86 are multi-family properties representing over 3400 units
- **Results:** When the active projects are completed, the City will have:
  - Facilitated access to EV charging for over 1500 multi-family housing units. Without accessible charging facilities these residents are unlikely to consider an EV.
  - Access to EV charging for employees of several non-profits and workplaces.
- **Marketing Strategy:** Of Palo Alto's 803 multi-family (MF) buildings, focus on the largest 5% (44 sites) which represent 32% of total MF units (about 3800 households). Also, partner with affordable housing providers which represent over 1600 low-income households at 35 sites of which 5 properties have 100 units or more. Outreach consists of direct outreach to property owners via call campaigns, with marketing done by the 3rd party program provider, CLEAResult.

Updates by EV Program

- **EV Technical Assistance Program (EVTAP)**

  Goal: Facilitate the installation of 180-360 ports @ 60-90 sites (By 2024)

  Offer technical assistance for the installation of EV chargers at Non-Profit and MF properties, involving a series of site visits, technical evaluations, engineering reviews, and design proposals, culminating in the landlord receiving contractor bids, followed by assistance submitting a building permit, applying for incentives and project management of the installation. Completed projects have taken up to 2 years to reach completion.

  As of the end of February 2023:

  - 85 signed Program Participation Agreements sites enrolled and working through the program
  - 34 sites with contractor bids
  - 11 permit applications submitted
  - 3 installations complete
  - 35 new EV charging ports installed
  - Currently proposed EVSE installations
    - 208 Level 1 charging ports
    - 505 Level 2 charging ports

- **EV Charger Rebate Program**

  Goal: Incentivize the installation of EV chargers at Non-Profits and Multifamily properties. CPAU currently offers up to $8,000 per port for up to 10 ports. Currently looking into lowering rebate levels due to

increased demand for rebates and a decreased income from Low Carbon Fuel Standard credits (see 6.2.1). The program is also considering putting a time limitation on fund reservations, to accelerate projects reaching completion.

As of the end of February 2023:

- 32 ports installed in CY2022
- Since the launch of this program in 2017, CPAU has facilitated the installations of 126 new EV charging ports/connectors at 16 sites. The breakdown of the installation sites: 7 MF and 9 non-profits (including 3 schools). Avg. cost of each port: $10k and projects have averaged 12 months to complete.

- **California Electric Vehicle Infrastructure Project (CALeVIP)**

  Goal: Facilitate and Incentivize the installation of EV chargers at commercial sites.

  As of January 2023, a total of $1.6M (out of $2M) has been reserved by 10 site owners through CALeVIP, a commercial EV charging, matching grant program sponsored by the California Energy Commission (CEC). The proposed installations could lead to the installation of 165 Level 2 ports and 12 DC Fast Chargers.

  - 0 installations completed
  - 10 sites enrolled and working through the program (1 hotel, 7 office sites, 1 retailer and 1 multi-unit dwelling)
  - 6 Permit Applications Submitted
  - 5 Permits Issued
  - Potential for 165 Level 2 ports and 12 DC Fast Chargers

- **EV Awareness and Outreach**

  Goal: Raise awareness, answer questions and encourage residents to consider transitioning to electrified modes of transportation, including electric cars, e-Bikes and other modes of clean transportation. CPAU is offering a wide array of EV classes and events, partnering with multiple vendors and organizations. In 2022, CPAU hosted over 30 EV and electrification online workshops and in-person events with over 2,000 attendees. From January through mid-February 2023, CPAU hosted three virtual EV educational workshops with a total of 264 participants in attendance. CPAU anticipates offering over two dozen online and in-person workshops and events during calendar year 2023.

  January – mid-February 2023:

  - 3 EV education and outreach events completed

Figure 28: Tentative Schedule of CPAU EV Workshops and Events, February - April 2023

Event #	Date	Event
1	2/28/2023	E-Bike 101 (online workshop)
2	3/8/2023	E-Bike 101 (online workshop)
3	3/15/2023	EVs for Backup Power (online workshop)
4	3/26/2023	EVSpecial EVent: EV ScaEVenger Hunt @ Cal Ave. Farmers' Market
5	3/28/2023	EVs for Backup Power (online workshop)
6	4/5/2023	Trilingual EV Financial Incentives Clinic (online workshop)

7	4/15/2023	E-Bikes in the Park w/ EV Expo @ Mitchell Park
8	4/30/2023	EV Expo @ Congregation Etz Chayim

Visit http://www.cityofpaloalto.org/workshops for information on upcoming classes.

- **City-Owned EV Chargers**

  Goal: Install EV Charging Infrastructure for the public as well as City-fleet.

  As of the End of December 2022:

  - 124 - City-Owned Ports
  - 120 - Publicly accessible EV Charging ports
  - Newest chargers: 6 ports at renovated Junior Museum on 1451 Middlefield Rd.

- **Transformer Upgrade Rebate Program**

  Goal: Provide discounts to defray the cost of utility distribution system upgrades triggered by EV applications, costs that would otherwise be borne by the customers. With this program we are offering up to $100K for MF & non-profits and up to $10K for Single Family Homes

  As of the End of December 2022:

Many older properties in Palo Alto, especially multifamily buildings, have limited electric capacity to accommodate EV chargers and building electrification. Yet, there is a nationwide transformer supply shortage, potentially delaying customer EV projects. In the meantime, the EV team is working closely with Engineering and is conducting a pre-screening of transformer loading for all commercial EV projects enrolled in EVTAP as well as proposing designs utilizing existing electric capacity.

6.2 Funding Sources for Emissions Reductions

Energy efficiency and water efficiency programs have traditionally been funded by electric, gas, and water rate revenues. To fund emissions reduction programs, the City has developed multiple alternative funding sources

6.2.1 Low Carbon Fuel Standard (LCFS) Program

LCFS base credits are allocated by the California Air Resources Board (CARB) to CPAU, based on the number of EVs registered in Palo Alto, the estimated miles travelled and the difference in carbon intensity of transportation fuels and electricity. Credits are also allocated based on CNG dispensed and electricity dispensed at city owned EV chargers. The sales proceeds of these credits are the source of funds for CPAU's customer programs related to EVs. In CY2022, Palo Alto received approximately 15,000 credits and is expected to result in a revenue of about $0.9M. LCFS credit prices have declined substantially in in 2022 compared to 2021, down from approximately $130/credit to $60/credit.

6.2.2 Cap and Trade Program, Revenue from Allocated Allowances

The Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, authorized CARB to develop regulations to lower the state's greenhouse gas (GHG) emissions to 1990 levels by 2020. CARB developed a cap-and-trade program as one of the strategies to achieve the 2020 goal. Under the cap-and-trade program, an overall limit on GHG emissions from capped sectors is established and facilities subject to the cap are able to trade permits (allowances) to emit GHGs. Senate Bill 32 (2016) expanded upon AB 32 by requiring a 40% reduction in GHG emissions below the 1990 levels by 2030.

In 2012, CARB's cap-and-trade program commenced and certain covered entities, such as electricity generators and other stationary sources of GHGs, had a compliance obligation under the new program. The City of Palo Alto Utilities' (CPAU's) electric utility does not own or operate fossil fuel-based electricity generation covered by the cap-and-trade regulations. CPAU also received free allowances from CARB to mitigate the costs of reducing its GHG emissions. Since CPAU's electric utility is carbon neutral and typically has no need to use the allowances for compliance, it must sell them into the cap-and-trade auction.

Allowance revenues, estimated to be around $3 million in 2022 and onward, can be used for several approved purposes, including: a) purchases or investment in renewable resources (outside Palo Alto or locally) for the electric portfolio; b) investment in energy efficiency programs for the electric portfolio and retail customers; c) investment in other carbon reduction activities, including those required to achieve a carbon-neutral electric portfolio; and d) rebates to electric retail ratepayers.

As of 2021 reporting, some allowances have been utilized to purchase renewable resources while others have been earmarked for future electrification programs (about $1.2 million). Staff is investigating using more of these funds for investments in emissions reduction programs.

6.2.3 Electric Public Benefit Funds

Locally owned municipal utilities like CPAU must collect Public Benefit funds from their electric utility customers as required by section 385 of the Public Utilities Code, to be used on cost-effective energy efficiency and conservation, low-income programs, investments in renewable energy resources and technologies, and research and development. CPAU currently has an Electric Public Benefit surcharge of 2.85% of the electric utility bill for all customers. A portion of this fund can be used for building electrification pilot programs and projects.

7 Communications

This section summarizes communications highlights, updates on major campaigns and noteworthy events. Copies of ads and bill inserts are available online at http://cityofpaloalto.org/UTLbillinsert.

Winter Storms and Power Outages: In January, the Bay Area experienced a series of storms and atmospheric rivers over the course of a few weeks. The City of Palo Alto responded to flooding and other storm-related impacts, including power outages for City of Palo Alto Utilities (CPAU) customers. Director Batchelor shared slides during the Utilities Director report to the UAC in February with an overview of the storm impacts and response. It is important to note that CPAU is currently working with a vendor to launch a new Integrated Voice Response (IVR) and Outage Management Service (OMS) to improve customer communications for outages.

Extreme Energy Prices and High Utility Bills: As discussed with the UAC in December, utilities across the region were impacted by extremely high natural gas prices during the FY 2022-2023 winter. Gas market prices can fluctuate greatly from month to month due to factors such as national weather, gas production, storage levels, as well as national and international trade and demand. Since learning of these higher prices in late November and early December, CPAU has been attempting to inform customers in advance to take action and save energy to try to avoid surprisingly high utility bills in January and February. The City is offering resources to help customers with high utility bill costs, including free energy assessments through the Home Efficiency Genie, bill payment arrangements, and efficiency tips. City Council also recently voted in February to offer rebates to customers for high bills. Customers are asked to contact Utilities Customer Service Call Center for bill assistance.

Ribbon-Cutting for Stanford Health Care EV Chargers: Stanford Health Care recently installed 15 new electric vehicle (EV) charging stations at the Hoover Pavilion garage through participation in the City's Electric Vehicle Technical Assistance Program. Stanford is also in the permitting phase for installing EV chargers at two other garages. The facility held a ribbon-cutting ceremony on February 9 to celebrate this sustainability milestone.

Water Supply and Drought: Staff have been proactive about communicating the current situation of water supply conditions and ever-changing water shortage emergency declarations. While recent storms throughout the Bay Area provided some relief from dry conditions, the state's water supply and snowpack are still below average for this time of year. As a result of the ongoing drought conditions, CPAU continues a robust outreach campaign about water supply conditions, water use restrictions, and resources for water use efficiency. Staff are working with the Bay Area Water Supply and Conservation Agency (BAWSCA) and Valley Water to coordinate public education events. Updates are available at cityofpaloalto.org/water

8 Legislative and Regulatory Activity

8.1 State legislation

At the time of this writing, the 2023 legislative session began six weeks ago and the deadline to introduce new bills is a few days away. Thus far, the legislature has introduced some potentially relevant spot bills, which count as an introduced bill for deadline purposes, while allowing a legislator time to develop substantive language. We are also tracking some fully developed bills that will undergo amendments as part of the regular process. Tracked bills as of February 2023 include those listed below.

Additionally, CPAU partnered with the California Municipal Utilities Association (CMUA) to successfully request that Assemblyman Berman author a bill related to increasing the utility workforce. (Reference Utilities Department Legislative Guideline number 13, "Support government action to expand the workforce in trades and technical disciplines necessary to support building and vehicle electrification and grid modernization.") The bill is in development now and should be formally introduced shortly.

- **AB 9 (Muratsuchi) and SB 12 (Stern)** |*California Global Warming Solutions Act of 2006: emissions limit*. Both bills, repeats of prior failed bills, set the state's 2030 GHG reduction goal from 40% below 1990 levels to at least 55% below 1990 levels.
- **AB 65 (Mathis)** | *Energy: nuclear fission thermal powerplant*. Allows for the development of new nuclear energy facilities in California by removing the current legal prohibition.
- **AB 66 (Mathis)** | *Natural Resources Agency: water storage projects: permit approval*. A spot bill creating a 'water project shot clock' by requiring timely *state* permitting decisions for water supply projects.
- **AB 249 (Holden)** | *Water: school sites: lead testing: conservation*. Requires a water system serving a public or private school with a building constructed before January 1, 2010 to test for lead by January 1, 2027, and to prepare a sampling plan.
- **SB 48 (Becker)** | *Building performance standards.* Spot bill to create building performance standards for improvements in energy efficiency and GHG reductions in large buildings
- **SB 49 (Becker)** | *Tax incentives: solar canopies.* A spot bill to provide tax incentives for the construction of solar canopies over large parking lots to boost the local generation of clean electricity.

8.2 State Regulatory Proceedings

Below are issues currently before state regulatory bodies that CPAU is monitoring, primarily through our work with CMUA and NCPA.

8.2.1 Energy Commission

A 2022 bill required the California Energy Commission to produce a report in January 2023 evaluating how the state, load-serving entities, publicly-owned utilities (POUs), and balancing authority areas managed summer reliability during 2022. In advance of the report's release, CMUA submitted comments related to challenges and opportunities moving forward.

8.2.2 State Water Resources Control Board

The federal EPA anticipates drafting proposed updates to the federal Lead & Copper Rule Standards this fall; the Water Board may develop proposed state standards once the draft federal rule is released.

8.2.3 Air Resources Board

CARB released the final version of the 2022 Scoping Plan update here, with an associated press release here.

8.2.4 Natural Resources Agency

Staff is currently working on our 2023 Wildfire Mitigation Plan, due by July 1. Staff expects to present the draft plan to the UAC in June.

8.2.5 California Public Utilities Commission

The CPUC has a pole database proceeding that CMUA is following, with CPAU participating on workgroup calls. The Administrative Law Judge in the proceeding asks if POUs should be included in possible mandates for development of a pole database, providing information about pole loading and assets to pole attachers.

8.2.6 California Independent System Operator

As mandated by a 2022 Assembly Resolution, CAISO developed a draft report summarizing possible impacts of regionalization. CPAU participated in a stakeholder call discussing the report.

Appendices

9 Appendix A: Energy Risk Management Program

This appendix provides a quarterly update on the City's Energy Risk Management Program.

9.1 Overview of Hedging Programs

The City's Utilities Department maintains a hedging program for its Electric and Gas Utilities. In the Gas Utility the program protects against short-term (intra-month) price spikes caused by weather or major incidents on the Western gas system. However, the City does not hedge its gas supply more than one month in advance, choosing instead to protect the Gas Utility's financial position by passing gas supply costs through to customers via a charge that varies monthly based on gas market prices. As a result, the Gas Utility's only market exposure is the amount by which gas demand deviates from forecasts within the month. This exposure is relatively small and can be managed using Gas Utility Operating Reserves. A risk assessment is performed each year as part of the Gas Utility financial planning process to ensure adequate reserves to cover all risks. The most recent Gas Utility Financial Plan was adopted June 21, 2021 (Staff Report #12240).

The City has entered into long-term contracts for its Electric Utility to ensure that the City has carbon free electricity supplies equal to 100% of Palo Alto's annual electric demand. However, the output from these generating sources does not match Palo Alto's electric load. In the summer, the City has a surplus of carbon free energy and it has a deficit in the winter. This exposes the City to market risk, and staff maintains a hedging program to protect against this risk. In addition, hydroelectric generators make up approximately half the City's energy supply. During dry years these resources do not generate as much energy, creating an additional market exposure that must be hedged. Unlike the gas hedging program, which is operated by City staff, the electric hedging program is operated by the Northern California Power Agency (NCPA), a joint powers agency the City formed in partnership with several other California publicly owned electric utilities, with oversight by City staff.

9.2 Overview of Energy Risk Management Program

The hedging programs described above are conducted in accordance with the City's Energy Risk Management Program, which includes a set of Program Policies adopted by the City Council, Guidelines adopted by the City's Utilities Risk Oversight Coordinating Committee (UROCC), and Procedures approved by the Utilities Director. In addition, for the electric hedging program, NCPA maintains its own Risk Management Program. The City is able to provide policy level oversight of this program through its seat on the NCPA Risk Oversight Committee, which is held by the City's Risk Manager.

Per the Energy Risk Management Policies, the City Council must receive quarterly reports on the City's forward contract purchases, market exposure, credit exposure, counterparty credit ratings, transaction compliance, and other relevant data.

9.3 Forward Deals

Below is a table of forward Electric Resource Adequacy deals and Gas Commodity deals made in Q2 of FY 2023. Palo Alto did not transact any Electric Energy deal in Q2 of FY 2023.

Figure 29: Electric Resource Adequacy Contracts

Delivery Month	Deal Type	Avg Capacity (MW/Mo.)	Avg Price ($/kW/Mo.)	Amount ($)
Jan - Dec '23	Sale	21.15	12.67	$ 3.2M
Jan - Apr, Oct - Dec '23	Sale	14.57	3.79	$0.4M
Jan - Dec '23	Sale	29.29	10.50	$3.7M

Figure 30: Gas Deals (FY2023-Q2)

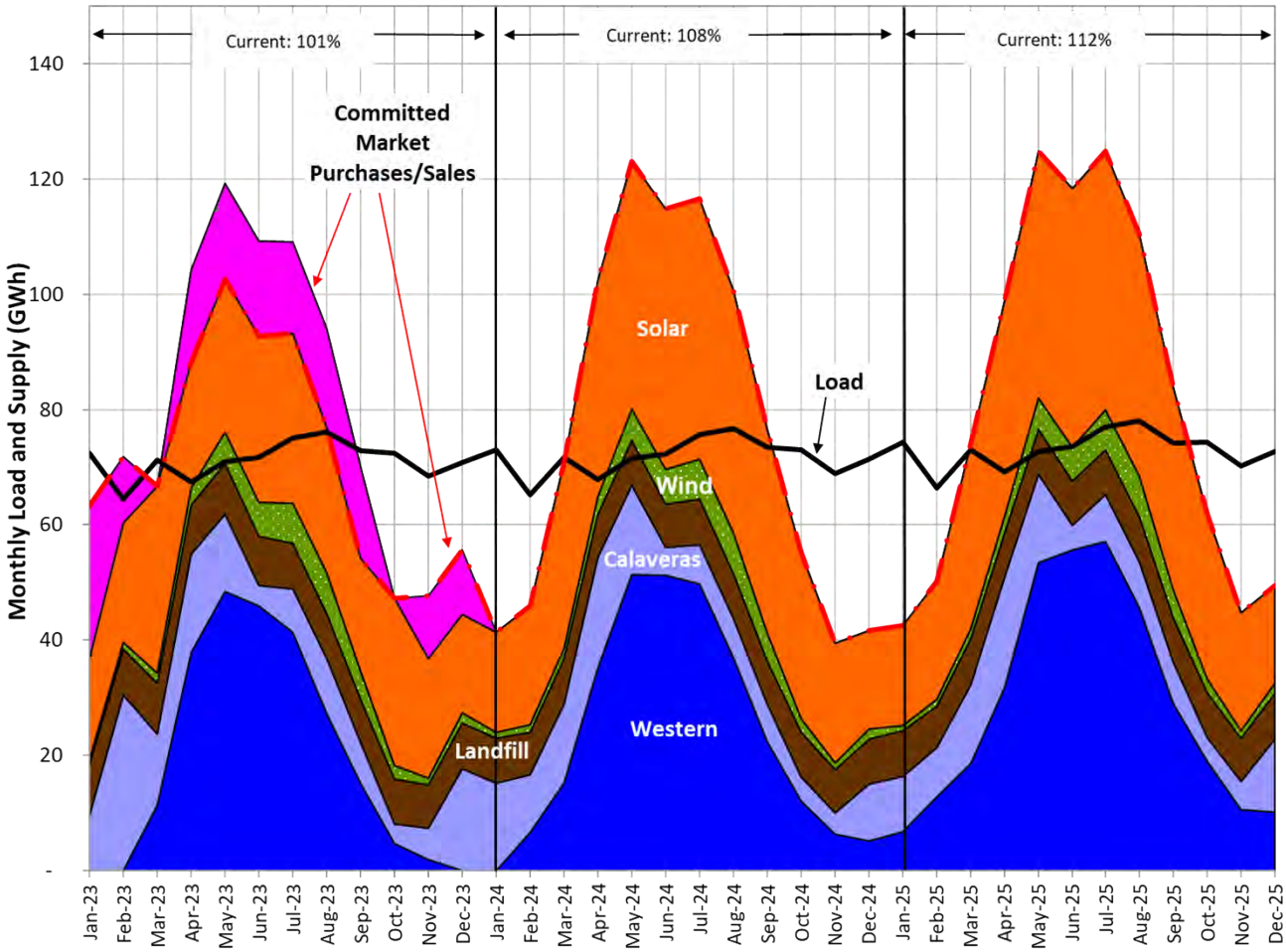
Delivery Month	Deal Type	Delivery Location	Total Volume (MMBtu)	Price ($/MMBtu)	Amount ($)
Nov '22 - Apr '22	Baseload Purchase	Malin	1,081,656	Bidweek Index	Varies
Nov '22 - Apr '22	Baseload Purchase	PG&E Citygate	731,800	Bidweek Index	Varies
Nov '22 - Oct '23	Swing Purchase	Malin	2,181,240[8]	Daily Index	Varies
Nov '22 - Oct '23	Swing Purchase	PG&E Citygate	7,300,000[8]	Daily Index	Varies
Nov '22 - Oct '23	Swing Sale	Malin	(2,181,240)[8]	Daily Index	Varies
Nov '22 - Oct '23	Swing Sale	PG&E Citygate	(1,630,900)[8]	Daily Index	Varies

9.4 Market Exposure

The chart below shows the City's market exposure and committed and planned purchases and sales to cover exposed positions.

[8] Maximum allowed volume

Figure 31: Electric Load Resource Balance, 2023 - 2025



9.5 Transaction Compliance

There are no transaction exceptions or violations to report.

10 Appendix B: Staffing and Vacancies

As of Q2 FY 2023, the Utilities Department has 50 vacant positions out of 253 authorized positions or a 20% vacancy rate. Below is a breakdown of the vacancies by division. The Electric Engineering and Operations (E&O) division continues to have the highest number and hardest positions to fill. Electric Engineering and Operations has a total of 26 vacancies or 29% vacancy percentage (compared to 32% vacancy rate in Q1 2023). The City is actively recruiting for 40 vacant positions. Due to HR staffing constraints, Utilities has designated three HR liaisons from Utilities Administration to assist HR with some of the recruitments. CPAU have attended or will be attending engineering career fairs at Sacramento State University, Cal Poly San Luis Obispo, and San Jose State University.

Figure 32: Utilities Vacancies and Position Movements by Division, up to Q2 FY 2023

Division	Authorized FTEs	Vacant FTEs	Active Recruitments	Vacancy %
Administration	20.5	3	1	15%
Customer Service	23	3	1	13%
Resource Management	25.5	4	1	16%
Electric Operations	69	18	16	26%
Electric Engineering	21	8	8	38%
WGW Operations	70	10	9	14%
WGW Engineering	24	4	4	17%
Total	**253**	**50**	**40**	**20%**

11 Appendix C: Wastewater Utility Annual Infrastructure Maintenance and Replacement Report

In each Quarterly Update the Utilities Department will provide a detailed overview of a single utility's investment and maintenance activity. An update on the wastewater utility was scheduled for this report, it is presented as Attachment B.

Wastewater Utility

Management Overview - 2022

Executive Summary

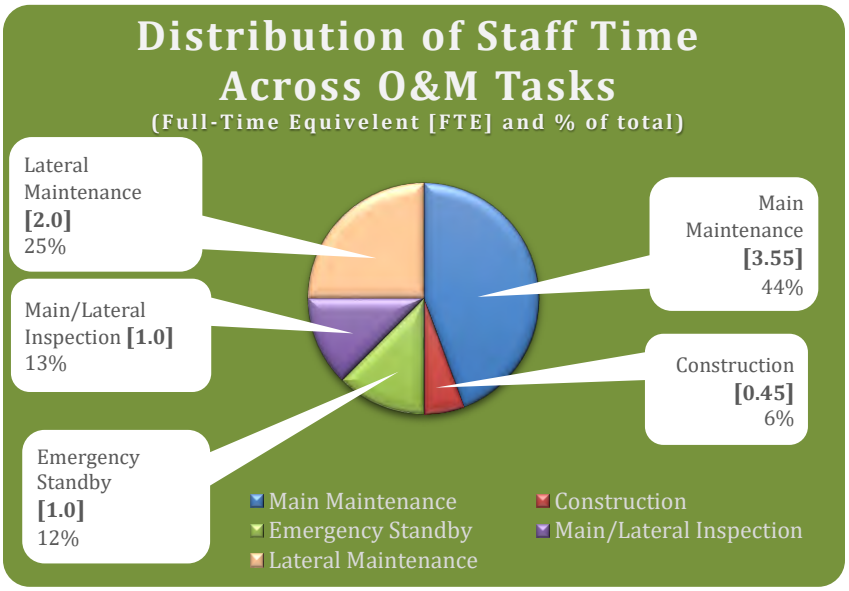
- The City continues to implement scheduled routine preventive maintenance
- Emergency standby team is responding to fewer calls for after-hours activities
- Sanitary Sewer Replacement program continues as proposed in the 5-year CIP budget
- Proposing an improved sanitary sewer replacement program in the FY 2024 Financial Plan to replace aging sewer infrastructure before reaching the end of its useful life

Infrastructure Overview

See Table 2 in this report for an overview of all assets. Infrastructure replacement and maintenance efforts in the next five years include:

- Completion of SSR 31 to replace deteriorated and failed sewer mains and laterals along El Camino Real
- Finalize scope and start design of SSR 32
- As-needed manhole rehabilitation/replacement
- Replacement of problematic laterals with structural defects or recurring issues
- Routine maintenance program for main, laterals, siphons, and lift station
- Routine testing/maintenance of SCADA overflow monitoring devices

System Operations and Maintenance Overview



Asset Management Goals

What are our goals?

- Properly manage, operate, and maintain the wastewater collection system
- Maintain our ability to reliably deliver service to our community
- Repair, rehabilitate, replace, and upgrade system components as needed
- Minimize Inflow and Infiltration (I/I) that takes up system capacity
- Minimize preventable sanitary sewer overflows (SSO) in dry and wet weather
- Maintain an effective SSO response time to reduce overflow impact to public health and the environment
- Provide relevant training for City of Palo Alto Utility staff and contractors in wastewater collection system maintenance, operations, and emergency response

How do we achieve the goals?

- Regularly inspect and maintain the collection system to make sure sewage is flowing properly
- Perform necessary repairs in a timely manner
- Analyze and evaluate historical SSOs to provide recommendations to reduce future risk
- Identify system blockages due to fats, oil, and grease (FOG) and develop strategies to decrease sewer blockages and backups
- Replace assets as they reach end of service life or as their condition deteriorates
- Identify capacity constraints and risks to our collection system and mitigate these issues promptly through appropriate capital improvement projects
- Seek ways to increase our productivity and control costs by completing the work more efficiently

- **Main Maintenance* (3.55 FTE):**
  - **Hydro-flushing:** High-velocity hydroflushing/vacuum truck.
  - **Root/Grease Treatment:** Herbicides, along with grease emulsifying agents are used to control root and Fat, Oils, and Grease (FOG) issues.
- **Lateral Maintenance* (2.0 FTE):**
  - **SOAP** (Sewer Overflow Alternative Program): Using an electric power rodder to clear the roots.
  - **AJAC** (Advanced Jetting and Cleaning): Using a hydrojetting tool to clear sewer blockages.
- **Main/Lateral Inspections (1.0 FTE):** Routine field inspections of mains, laterals, siphons, manholes, and other sewer components (e.g., lift station) using remote Closed-Circuit Television (CCTV) cameras and visual inspections.
- **Emergency Response Team (1.0 FTE):** The emergency response team (ERT) of 2 installers and 1 heavy equipment operator is on standby at all times. The ERT responds promptly to investigate and mitigate sewer issues when calls are received from the City's Dispatch.
- **Construction (0.45 FTE):** Installation of new laterals, pipe repairs, and manhole replacements.

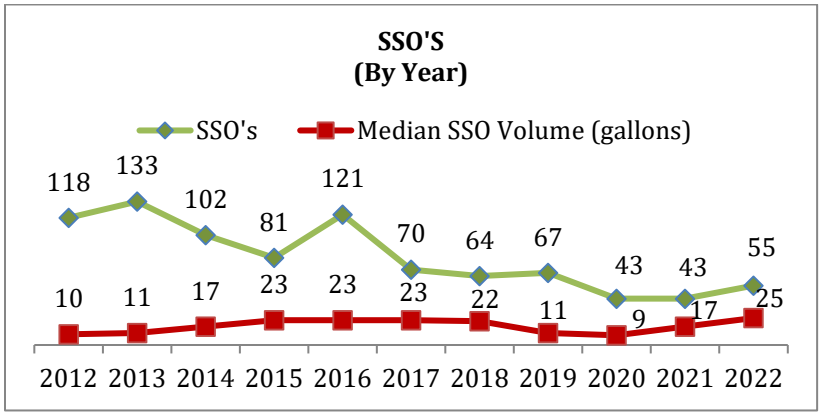
**First priority programs, critical to daily operation*

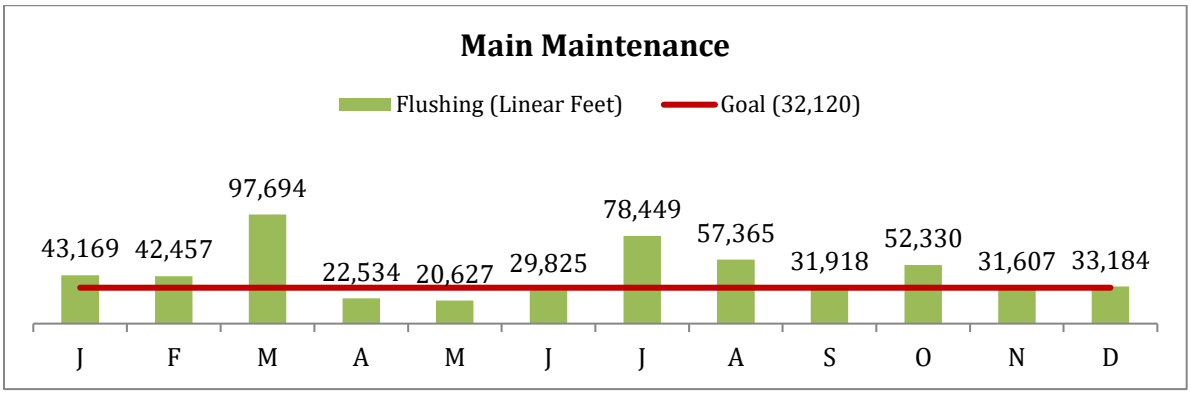
Maintenance Status:

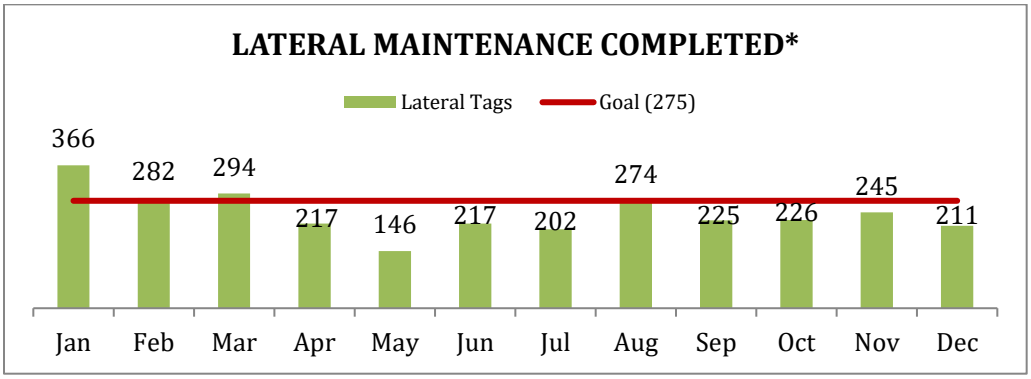
- Essential maintenance programs continue as Operation's primary routine daily task.
- Main/lateral inspection program continues to provide Engineering Division with valuable data from pipe assessment for CIP project prioritization.
- Aging monitoring devices in 39 sewer manholes, used to monitor sewer overflows remotely, are being replaced with new reliable units for accuracy and performance.

Wastewater Maintenance and Construction Charts

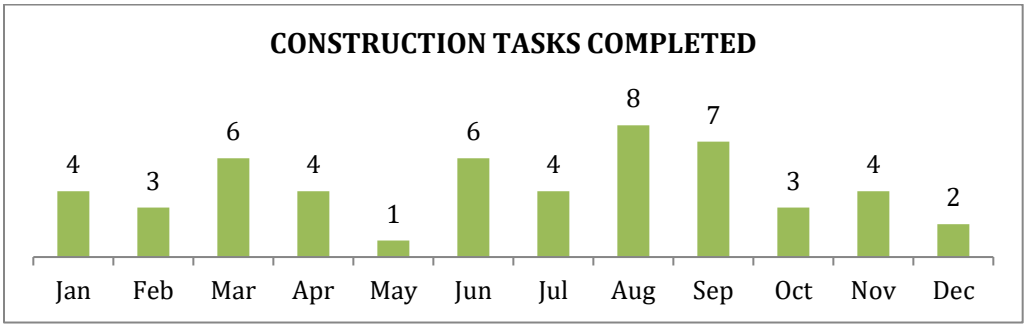
In the past 10 years, sanitary sewer overflows (SSO) have noticeably decreased due to annual maintenance programs and biennial sewer main/lateral replacement projects.







**See Table 1 for explanation.*



Note: The tasks shown include as-needed repair work performed on sewer mains or laterals, as well as new laterals installed or replaced for development services projects.

Table 1: Status of Collection System Operation and Maintenance Programs

System Operation or Maintenance Program	**Status** Green = good Yellow = room for improvement	**Comments**
Lateral Maintenance		SOAP/AJAC tags are completed daily throughout the year. The monthly goal of 275 tags was not consistently met due to staffing issues and scheduling inefficiency. Management continues to make efforts to fill vacant positions. The monthly goal of performing maintenance on 275 laterals per month is also being evaluated to ensure the goal is appropriate and achievable. In addition, staff is evaluating potential opportunities to improve efficiency by scheduling lateral maintenance work by drainage basin to reduce travel time/mobilization between neighborhoods.
Main Maintenance		Flushing of the sewer mains is performed on a regular schedule throughout the year and the City is consistently achieving its overall flushing goal. The monthly goal was not met on three occasions during 2022, but the annual goal of 385,440 L.F. of mains was surpassed this year with City completing 541,159 L.F. of main flushing.
Main/Lateral Inspections (CCTV)		Operations typically implement a scheduled inspection program, however there are times when scheduled work was postponed to focus on special requests in support of capital or development service projects.
Emergency Standby		Wastewater Operations maintains continuous system monitoring program to respond emergency events. A wastewater ERT is assigned to be ready for any on-call emergencies and responds promptly to mitigate any wastewater issues during office and non-office hours.
Construction (Repair main/laterals, new laterals)		An Operations crew is assigned the task to perform construction work for new Development Services installations and emergency repair work for our sewer mains and lower laterals, when work is needed and not included in our Capital Improvement Projects (CIP).

Table 2: Overview of Collection System Assets

Asset Class	**Quantity**	**Maintenance**	**Asset Condition**
Manholes	3,870	Hydro-vacuuming manhole bases for excessive debris and visually inspecting manhole walls for I & I, report to Engineering with recommendations for future replacement.	Old brick manholes are typically replaced with more reliable pre-cast concrete structures. Over time brick manholes introduce groundwater via cracks in bases or wall structures.

Mains and Lateral service	~ 140 miles of mains, ~2,988 services	Most mains/laterals are flushed annually, where as some less severe areas are flushed every 36 months. For high frequency lines, flushing happens every 6 months.	With routine maintenance, our mains and lateral services can be easily assessed by our Operations crew for remaining useful life of our aging sewer assets.
Lift Station / Force main	1 station / ~900 linear feet of 10-inch force main	Wastewater Operations perform routine operational checks of the station once a month and the wet well is cleaned quarterly. Preventive maintenance for mechanical and electrical equipment is done annually by WGW Operations. The station has an audible alarm and is connected through a SCADA system to the Utilities Dispatch Center. The station serves approximately 25 homes and a portable generator is available in the event of power outages.	The Foothill Lift Station currently requires only minor and routine maintenance and is in good condition overall.

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: May 3, 2023
Staff Report: 2301-0795

TITLE

Informational Update on Background and Options for California Oregon Transmission Project

EXECUTIVE SUMMARY

This report is for information only; no action is required. This report provides background on the approximately 54 MW of the City of Palo Alto Utilities (CPAU) ownership share of the California Oregon Transmission Project (COTP). Palo Alto laid off its entire 54 MW share of the COTP in 2009. The current layoff may be extended another five years, but with no action the current layoff will end January 31, 2024. CPAU has the option to extend the layoff, negotiate a new layoff, receive the resource back, or sell the 54 MW share permanently. This report is to provide background on the resource, as well as benefits and drawbacks of different potential future arrangements. Staff is currently in discussions with potential interested parties and will bring a recommendation back to the Utilities Advisory Commission, Finance Committee, and Council summer of 2023.

BACKGROUND

The Transmission Agency of Northern California (TANC) is a California Joint Powers Agency, whose member owners include MID, TID, SMUD and the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa Clara, and Ukiah. TANC currently owns and operates approximately 87 percent of the COTP, a 1600 MW, 340-mile electric transmission line from the California-Oregon Border (COB) to the 500 kilovolt Tracy substation in Northern California. The City is a signatory to TANC's 1990 Project Agreement No. 3 (PA3) (Resolution No. 6877, adopted March 26, 1990). PA3 provides the City a share of approximately 54 MW, or 3.6815%, of TANC's entitlement on the COTP.

The COTP is one of three lines that brings power from the Pacific Northwest to Northern and Central California. It runs from Bonneville Power Administration's (BPA) Captain Jack Substation in Southern Oregon to the Tracy Intertie with Western Area Power Administration (WAPA) to the Tesla Substation in Central California. The COTP was planned, designed, and built by a coalition of public utilities, private utilities, and federal agencies and was first energized in 1993. The City of Palo Alto was one of the original Publicly Owned Utilities (POUs) in northern California that led the project. The project was built to ensure transmission to BPA which was independent of PG&E transmission lines.

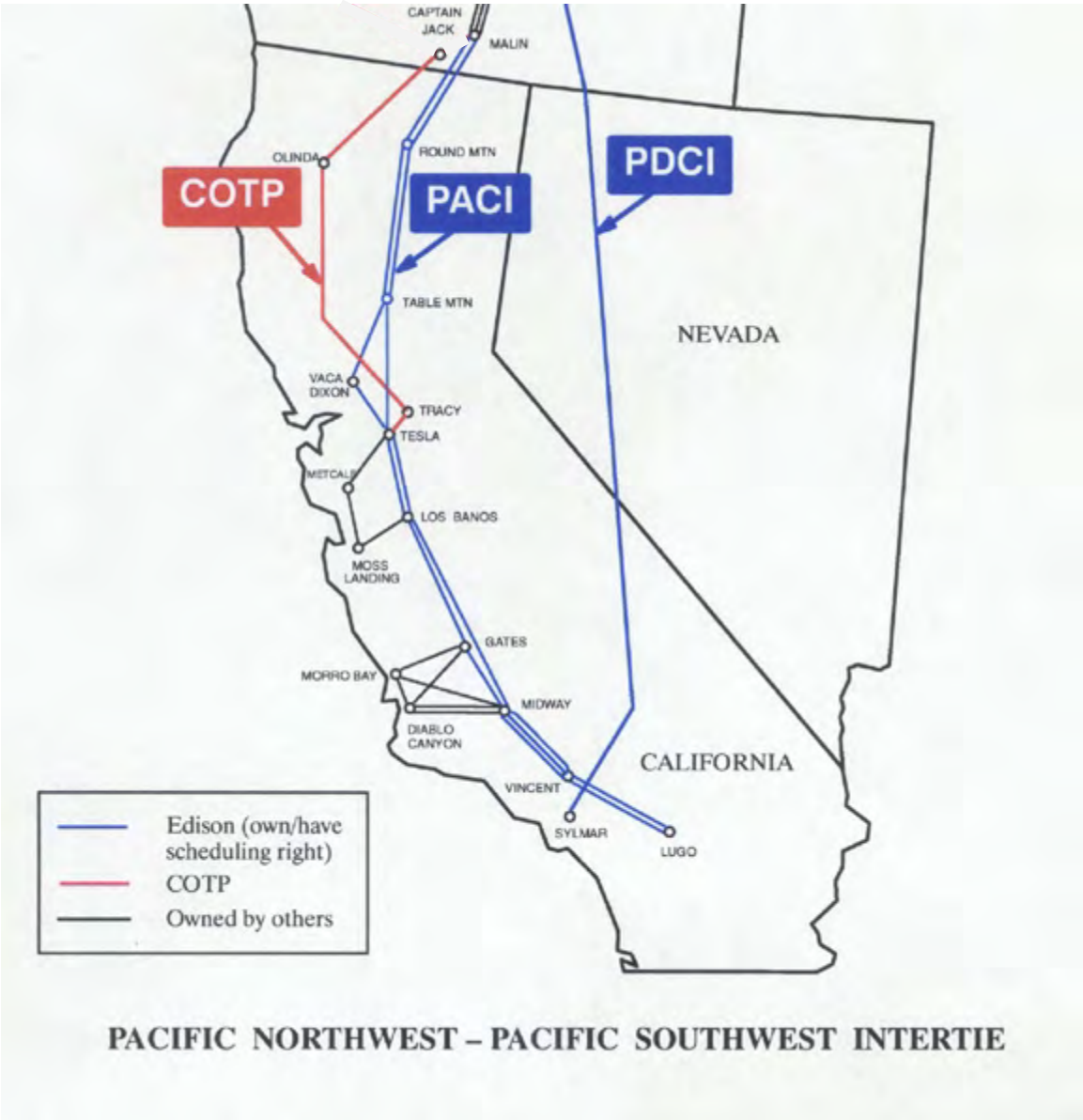


Figure 1 Simple Map of COTP transmission line and substations
http://www.caiso.com/Documents/City-VernonPTOApplicationMap-page3.jpg

The 1993 COTP line predates competitive energy market formation of the California Independent System Operator (CAISO) in 2000. The CAISO is both the Regional Transmission Operator (RTO) for the majority of the transmission system in California, and operates a competitive wholesale energy market. Upon formation of the CAISO several POUs opted to keep their transmission assets separate and apart from the CAISO balancing authority. Even though Palo Alto sits in the CAISO, the COTP is owned mostly by POUs, who can choose to allow the CAISO to use this transmission or not.

The energy crises of 2000-2001 led to CAISO's 2008 Market Design and Technology Upgrade (MRTU). The market redesign led to decreased energy prices as well as a decrease in the value of the line to CPAU, while it had higher value to utilities which sit in the adjacent balancing authority, the Balancing Authority of Northern California (BANC). BANC members include the Sacramento Municipal Utility District, Modesto Irrigation District, Roseville Electric, Redding Electric Utility, Trinity Public Utilities District, City of Shasta

Lake, and the sub-BA control area of Western Area Power Administration - Sierra Nevada Region. With the market redesign of the MRTU Palo Alto elected to layoff its entire share of 54 MW of the COTP in an at-cost layoff for 15 years, terminating January 31, 2024 (Staff Report #4547)[1].

DISCUSSION

Staff is currently soliciting bids for another long-term layoff. Depending on market developments and bids received staff may opt to bring COTP back to the City's portfolio. With no action CPAU's 54 MW share of the COTP will automatically revert back to CPAU February 1, 2024.

If the new layoff bids are not advantageous, then receiving the asset back and either using it or offering it for monthly Congestion Revenue Rights (CRRs) from the CAISO may be the best course of action. Staff is working with transmission experts to help to value the asset as there are potential major changes in the electricity markets on the horizon.

Staff has considered several options and is currently slightly favoring a new layoff agreement, with bringing the asset back to the CPAU electric portfolio also being evaluated.

FISCAL/RESOURCE IMPACT

If Palo Alto does not extend the current layoff agreement the City of Palo Alto's Electric Utility will need to fully fund CPAU's share of accrued capital replacement costs by February 1, 2024. Staff anticipates this amount will be approximately $800,000, which has been accruing since 2009 based on documents provided by TANC. Staff does not currently think an extension of the current layoff is the best value of the asset, and so is planning to pay this amount in February 2024 to the current layoff recipients.

The resource impact of a new layoff, bringing the asset back into the portfolio, or a permanent sale all depend on the details of the agreements reached.

POLICY IMPLICATIONS

This analysis of potential options after the City's layoff expires is consistent with the Utilities Strategic Plan, the Utilities Electric Integrated Resource Plan, Sustainability Implementation Plans, and the City's Sustainability and Climate Action Plan (S/CAP).

ENVIRONMENTAL REVIEW

The UAC's review of these options does not require California Environmental Quality Act review, because this item does not meet the definition of a project under Public Resources Code Section 21065 and CEQA Guidelines Section 15378(b)(5), as an administrative governmental activity which will not cause a direct or indirect physical change in the environment.

NEXT STEPS

[1] Council Staff Report 4547 https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2014/final-staff-report-id-4547_amendment-no-1-to-cotp-long-term-layoff.pdf

Staff will continue with ongoing discussions with POUs including the current recipients of the layoff - Turlock Irrigation District, Sacramento Municipal Utilities District, and Modesto Irrigation District. Staff will continue to pursue all available avenues to negotiate the best value possible for CPAU customers. Staff will bring final recommendation to UAC, Finance Committee and Council.

Approved By:
Dean Batchelor, Director of Utilities
Lena Perkins, Senior Resource Planner, Utilities